

## HOUSEHOLD AND STRUCTURAL PEST CONTROL – Products for Use by the General Public and Products for Professional Use Only

The following tables provide household and structural pest control recommendations with pesticides for use by the homeowner and with pesticides for use by licensed pest control operators only. Mention of pesticides in this section does not imply that chemicals are or should be the first or only means of control. Nonchemical control methods, including exclusion and sanitation, should always be considered when seeking to obtain a long-term solution to household pest problems.

All chemical information provided below is given with the understanding that no endorsement of named products is intended nor is criticism implied of similar products that are not mentioned. Individuals who use pesticides are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Before purchasing or using any pesticide, always read and carefully follow the label directions.

Insecticides listed below are identified by common chemical name. A trade name in parentheses may also be listed as a convenience for the reader. Additional trade names that may be available locally are listed in the **HOMEOWNER INSECTICIDE PRODUCT LIST** beginning on page 317.

**Formulation Designations:** A = Aerosol (injectable or spray); B = Bait (gel or granular); D = Dust; F = Fogger (total release aerosol); FM = Foam; FU = Fumigant; G = Granular; P = Powder (for mixing with water); L = Liquid (for mixing with water or ready-to-use); S = Bait (station).

| Pests  | Insecticide  | Formulation | Precautions and Remarks  |
|--|--|-------------|--|
| <b>ANT</b><br><b>(a) Indoors</b><br><br>(For information on <b>Carpenter Ants</b> , see entry.)      | abamectin  | S           | Place bait stations in areas where ants are active. Keep out of reach of children and pets. Use dust formulations only in inaccessible areas. Repeat treatment as effectiveness diminishes. Some products are not suitable for use in residential kitchens or commercial food/feed preparation sites. Read the product label carefully. Remove food from storage areas before treating. Apply products as directed on the label.<br><br>Imiprothrin is usually formulated with other pesticides in these products. |
|  | allethrin (Ultra-Kill)   | A           |  |
|  | beta-cyfluthrin (Bayer Advanced)                                 | L           |  |
|  | bifenthrin (Ortho)   | A, L        |  |
|  | borax/boric acid (Hot Shot, Terro)                               | B, D, S     |  |
|  | cypermethrin (Black Flag, Hi-Yield, Hot Shot, Raid, Spectracide) | A, F, L     |  |
|  | deltamethrin (Black Flag, Raid, Spectracide, Terro)              | A, L        |  |
|  | diatomaceous earth (Perma-Guard)                                 | D           |  |
|  | dinotefuran (Hot Shot, Spectracide)                              | S           |  |
|  | eugenol (Bayer Advanced)   | L           |  |
|  | fipronil (Combat)  | B           |  |
|  | hydramethylnon (Amdro, Combat)                                   | S           |  |
|  | imiprothrin (Hot Shot, Raid)                                     | A           |  |
|  | indoxacarb (Hot Shot, Spectracide)                               | S           |  |
|  | lambda-cyhalothrin (Hot Shot, Spectracide)                       | L           |  |
|  | lemongrass oil (Hot Shot)  | A, L        |  |
|  | permethrin (various)   | A, D, G     |  |
|  | propoxur (Amdro)   | S           |  |
|  | pyrethrins, pyrethrum (Black Flag, Hot Shot)                     | A           |  |
|  | sodium O-phenylphenate (Bayer Advanced)                          | A           |  |
| tetramethrin (various)   | A  |             |  |
| thiamethoxam (Optigard, Raid)  | B  |             |  |
| zeta-cypermethrin (Cynoff)   | D  |             |  |
| <b>ANT</b><br><b>(b) Outdoors</b><br><br>See "Ant" and "Imported Fire Ant" under <b>Home Lawns</b> . | beta-cyfluthrin (Bayer Advanced)                                 | L           | Apply granular bait around nest. Place bait stations in areas where ants are active. Treat nest and surrounding area. May be applied along building perimeter.<br><br>Apply products as directed on the label.   |
|  | bifenthrin (Ortho)   | G, L        |  |
|  | borax (Terro)  | B           |  |
|  | cypermethrin (Hi-Yield)  | L           |  |
|  | deltamethrin (Black Flag, Raid, Spectracide, Terro)              | A, L        |  |

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|-----------------------------------|--|--------------------|---|
| <b>ANT</b><br><b>(b) Outdoors</b> | diatomaceous earth (Perma-Guard)                           | D                  | Apply granular bait around nest. Place bait stations in areas where ants are active. Treat nest and surrounding area. May be applied along building perimeter.                            |
|                                   | dinotefuran (Hot Shot, Spectracide)                        | S                  |   |
|                                   | fipronil (Combat)  | B                  | Apply products as directed on the label.  |
|                                   | gamma-cyhalothrin (Spectracide)                            | G, L               |   |
|                                   | hydramethylnon (Amdro, Combat)                             | B                  |   |
|                                   | indoxacarb (Hot Shot, Spectracide)                         | S                  |   |
|                                   | lambda-cyhalothrin (Hot Shot, Spectracide, Terro)          | L                  |   |
|                                   | permethrin (various)                                       | L                  |   |
| tetramethrin (various)            | L  |                    |   |
| zeta-cypermethrin (Cynoff)        | D  |                    |   |
| <b>BED BUG</b>                    | beta-cyfluthrin (Bayer Advanced)                           | L                  | Apply to mattress tufts and folds, crevices in bed frame and cracks and crevices along baseboard. Mattress heat sanitizing is an alternative.   |
|                                   | deltamethrin (Black Flag)                                  | L                  |   |
|                                   | diatomaceous earth (Perma-Guard)                           | D                  | Apply products as directed on the label.  |
|                                   | dichlorvos (Hot Shot)                                      | Pest Strip         |   |
|                                   | d-phenothrin (Raid)  | A                  |   |
|                                   | imiprothrin (Raid)   | A                  | Imiprothrin is formulated with other pesticides in these products.  |
|                                   | lambda-cyhalothrin (Hot Shot)                              | L                  |   |
|                                   | permethrin (various)                                       | L, A               |   |
|                                   | phenoxybenzyl (Bayer, Black Flag, Hot Shot)                | A                  |   |
|                                   | prallethrin (Hot Shot)                                     | A                  |   |
|                                   | silicon dioxide (Hot Shot)                                 | D                  |   |
| zeta-cypermethrin (Cynoff)        | D  |                    |   |
| <b>BEE</b><br><b>(a) Indoors</b>  | cypermethrin (Black Flag, Hi-Yield, Hot Shot, Spectracide) | A, F, L            | Apply only for sporadic invaders. If bees are found frequently, locate and remove the nest.   |
|                                   | deltamethrin (Raid)  | L                  |   |
|                                   | diatomaceous earth (Perma-Guard)                           | D                  | Apply products as directed on the label.  |
|                                   | d-phenothrin (Raid)  | A                  |   |
|                                   | imiprothrin (Raid)   | A                  |   |
|                                   | permethrin (various)                                       | A                  |   |
|                                   | pyrethrins, pyrethrum                                      | A, L               |   |
|                                   | tetramethrin (various)                                     | A                  |   |
| <b>BEE</b><br><b>(b) Outdoors</b> | beta-cyfluthrin (Bayer Advanced)                           | L                  | Apply after dark when insects have returned to nest. Some materials are available in pressurized cans that propel an insecticide stream up to 10 feet. Repeat treatment may be necessary. |
|                                   | bifenthrin (Ortho)   | L                  |   |
|                                   | carbaryl (various)   | D, L, P            |   |
|                                   | cypermethrin (Hi-Yield)                                    | L                  | Apply products as directed on the label.  |
|                                   | deltamethrin (Raid)  | L                  |   |
|                                   | d-phenothrin (Raid)  | A                  |   |
|                                   | gamma-cyhalothrin (Spectracide)                            | L                  |   |

For carpenter bees, see **Carpenter Bee** entry.

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|--|--|--------------------|---|--|
| <b>BEE</b><br><b>(b) Outdoors</b> (cont.)<br><br>For carpenter bees, see <b>Carpenter Bee</b> entry. | permethrin (various)                                       | A, L               |   |  |
|  | prallethrin (Hot Shot)                                     | A                  |   |  |
|  | tetramethrin (various)                                     | L                  |   |  |
|  | zeta-cypermethrin (Cynoff)                                 | D                  |   |  |
| <b>BOOKLOUSE (psocid)</b><br><b>(Indoors and outdoors)</b>   | allethrin (Ultra-Kill)                                     | A                  | Apply as a barrier spray along foundation and entry points (doors and windows). Read labels to determine which products are suitable for indoor use. Clean up moisture problems that may attract insects indoors. Excess moisture may impede product effectiveness. |  |
|  | beta-cyfluthrin (Bayer Advanced)                           | L                  |   |  |
|  | bifenthrin (Ortho)   | L                  |   |  |
|  | cypermethrin (Spectracide)                                 | A                  |   |  |
|  | diatomaceous earth (Perma-Guard)                           | D                  |   |  |
|  | imiprothrin (Raid)   | A                  |   | Imiprothrin is formulated with other pesticides in these products. |
|  | permethrin (various)                                       | L                  |   |  |
| pyrethrins, pyrethrum  | A  |                    |   |  |
| <b>BOXELDER BUG</b><br><b>(Outdoors)</b>   | beta-cyfluthrin (Bayer Advanced)                           | L                  | Harmless insects become nuisances when searching indoors for hibernation sites in the fall. Treat door thresholds, window ledges and other areas where the insects congregate or may gain entry.  |  |
|  | bifenthrin (Ortho)   | L                  |   |  |
|  | deltamethrin (Spectracide)                                 | L                  |   |  |
|  | d-phenothrin (Raid)  | A                  |   |  |
|  | gamma-cyhalothrin (Spectracide)                            | L                  |   |  |
|  | permethrin (various)                                       | L                  |   |  |
| <b>BROWN DOG TICK</b><br><b>(a) Indoors</b>  | allethrin (Ultra-Kil)                                      | A, L               | Spot-treat pet beds (not actual bedding) along with cracks, crevices and similar hiding areas. DO NOT apply to animals (see also <b>ANIMAL INSECT CONTROL</b> section). Discard or launder infested bedding in hot, soapy water.                                    |  |
|  | beta-cyfluthrin (Bayer Advanced)                           | A, L               |   |  |
|  | cypermethrin (Black Flag, Hi-Yield, Hot Shot, Spectracide) | A, F, L            |   |  |
|  | deltamethrin (Spectracide)                                 | L                  |   |  |
|  | diatomaceous earth (Perma-Guard)                           | D                  |   |  |
|  | d-phenothrin (Raid)  | A                  |   |  |
|  | imiprothrin (Black Flag)                                   | A                  |   | Imiprothrin is formulated with other pesticides in these products. |
|  | gamma-cyhalothrin (Spectracide)                            | L                  |   |  |
|  | lambda-cyhalothrin (Spectracide)                           | A, L               |   |  |
|  | permethrin (various)                                       | A                  |   |  |
|  | pyrethrins, pyrethrum                                      | A                  |   |  |
| tetramethrin (various)   | A  |                    |   |  |
| <b>BROWN DOG TICK</b><br><b>(b) Outdoors and under buildings</b>                                     | beta-cyfluthrin (Bayer Advanced)                           | L                  | See also <b>ANIMAL INSECT CONTROL</b> section.  |  |
|  | bifenthrin (Ortho)   | G                  |   |  |
|  | cypermethrin (Hi-Yield)                                    | L                  |   |  |

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|--|---|---|---|
| <b>BROWN DOG TICK</b><br><b>(b) Outdoors and under buildings</b> | deltamethrin (Black Flag, Spectracide)                          | L   | See also <b>ANIMAL INSECT CONTROL</b> section.  |
|  | diatomaceous earth (Perma-Guard)                                | D   |   |
|  | gamma-cyhalothrin (Spectracide)                                 | G, L  |   |
|  | lambda-cyhalothrin (Spectracide)                                | A, L  |   |
|  | permethrin (various)  | L   |   |
|  | tetramethrin (various)  | L   |   |
| <b>CARPENTER ANT</b><br><b>(a) Indoors</b>                       | abamectin (Advance)   | B   | Apply as directed on label.   |
|  | acetamiprid + bifenthrin (Transport Mikron)                     | L   | Apply as directed on label.   |
|  | allethrin (Ultra-Kill)  | A   | Apply as directed on label.   |
|  | beta-cyfluthrin (Bayer Advanced, Tempo)                         | L   | Apply as directed on label.   |
|  | bifenthrin (Ortho, Talstar)                                     | A, L  | Apply as directed on label.   |
|  | boric acid (Niban, Mother Earth G)                              | B   | Apply as directed on label.   |
|  | chlorfenapyr (Phantom)  | L   | Apply as directed on label.   |
|  | cyfluthrin (Bayer Advanced, Tempo)                              | L   | Apply as directed on label.   |
|  | cypermethrin (Cynoff EC)  | D   | Apply as directed on label.   |
|  | deltamethrin (Bayer Advanced, Spectracide, Suspend)             | L   | Apply as directed on label.   |
|  | dinotefuran (Alpine)  | FM, L   | Apply as directed on label.   |
|  | esfenvalerate (Onslaught)                                       | L   | Apply as directed on label.   |
|  | fipronil (Combat, Maxforce)                                     | B   | Bait where you see ant activity. Apply as directed on label.                                      |
|  | hydramethylnon (Combat)   | B   | Bait where you see ant activity. Apply as directed on label.                                      |
|  | imidacloprid + cyfluthrin (Temprid SC)                          | L   | Apply as directed on label.   |
|  | indoxacarb (Advion, Arilon)                                     | B, L  | Bait where you see ant activity. Apply as directed on label.                                      |
|  | lambda-cyhalothrin (Demand, Spectracide)                        | FM, L   | Apply as directed on label.   |
|  | permethrin (Dragnet, various others)                            | L   | Apply as directed on label.   |
|  | disodium octaborate tetrahydrate (Bora-Care, Tim-bor, Borathor) | D, L  | Apply as directed on label.   |
|  | thiamethoxam (Optigard)   | L   | Apply as foam to wall voids or infested wood.   |
| zeta-cypermethrin (Cynoff)                                       | D   | Apply dust formulation directly to galleries. |   |
| <b>CARPENTER ANT</b><br><b>(b) Outdoors</b>                      | abamectin (Advance)   | B   | Apply as directed on label.   |
|  | acetamiprid + bifenthrin (Transport Mikron)                     | L   | Apply outdoors only as pinstream, spot, crack and crevice, or perimeter spray.                    |
|  | beta-cyfluthrin (Bayer Advanced, Tempo)                         | L   | Treat into and around the nest, then seal holes.  |
|  | bifenthrin (Ortho, Bifen, Talstar)                              | L   | Spray or inject into wood.  |
|  | boric acid (Niban, Mother Earth G)                              | B   | Place bait granules around perimeter.   |
|  | chlorfenapyr (Phantom)  | L   | Exterior use limited to spot (2 square feet) and crack and crevice treatments at points of entry. |
|  | cyfluthrin (Bayer Advanced, Tempo)                              | L   | Treat into and around the nest, then seal holes.  |

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|---|---|--------------------|---|
| <b>CARPENTER ANT</b><br><b>(b) Outdoors</b> (cont.)                                   | cypermethrin (Cynoff EC, Hi-Yield, Martin's Viper, Demon TC)    | D, L               | Apply dust formulation directly to galleries.   |
|   | deltamethrin (Suspend)  | L                  | Treat into and around the nest.   |
|   | dinotefuran (Alpine)  | FM, L              | Apply as directed on label.   |
|   | fipronil (Maxforce, Termidor, Taurus)                           | B, G, P            | Apply bait granules in ant foraging areas. Water area after applying granules.  |
|   | hydramethylnon (Maxforce)                                       | B                  | Apply granules along perimeter of building or nest. (Maxforce is for professional use.)   |
|   | gamma-cyhalothrin (Spectracide)                                 | L                  | Apply as directed on label.   |
|   | imidacloprid + cyfluthrin (Temprid SC)                          | B, L               | Apply as directed on label.   |
|   | indoxacarb (Arilon, Advion)                                     | B, L               | Apply as directed on label.   |
|   | lambda-cyhalothrin (Demand, Spectracide)                        | A, L               |   |
|   | permethrin (Dragnet, various others)                            | L                  | Apply as crack and crevice or spot treatment or paint onto surface. Application by drilling and injecting is also permitted.  |
|   | disodium octaborate tetrahydrate (Bora-Care, Tim-bor, Borathor) | L, D, P            | Spray, brush on or inject into wood. For long-term protection, apply a water repellent stain to exterior wood surfaces two to three weeks after treatment.                                  |
|   | zeta-cypermethrin (Cynoff)                                      | D                  |   |
| <b>CARPENTER BEE</b>  | beta-cyfluthrin (Bayer Advanced, Tempo)                         | L                  | Apply liquid as a surface spray and into entrance hole. Seal entrance hole.   |
|   | bifenthrin (Ortho, Bifen, Talstar)                              | L                  | Apply as a coarse surface spray and into entrance hole. Seal entrance hole.   |
|   | carbaryl (various)  | D, L               | Apply liquid as a surface spray and into entrance hole. Puff into and around entrance holes using dust applicator. Seal with wood plugs, putty, or stainless steel or copper wool.          |
|   | chlorfenapyr (Phantom)  | L                  | Apply as directed on label.   |
|   | cyfluthrin (Bayer Advanced, Tempo)                              | L                  | Apply liquid as a surface spray and into entrance hole. Seal entrance hole.   |
|   | cypermethrin (Demon TC)   | L                  | Treat into and around the nest.   |
|   | deltamethrin (Bayer Advanced, Suspend SC)                       | D, L               | Apply liquid as a coarse surface spray and into gallery entrance. Puff into and around entrance holes using dust applicator. Seal with wood plugs, putty or stainless steel or copper wool. |
|   | imidacloprid + cyfluthrin (Temprid SC)                          | L                  | Apply as directed on label.   |
|   | lambda-cyhalothrin (Demand, Spectracide)                        | L                  | Spray or inject into wood. Seal holes in wood before injecting. Avoid runoff.   |
|   | permethrin (Dragnet)  | L                  | Spray or inject into wood. Seal holes in wood before injecting. Avoid runoff.   |
|   | zeta-cypermethrin (Cynoff)                                      | D                  | Apply dust formulation directly into galleries.   |
| <b>CARPET BEETLE</b><br><b>(a) Nonfabric areas and infested areas of carpets only</b> | allethrin (Ultra-Kill)  | A, L               | Treat cracks, crevices and hidden areas to point of runoff with spray. Moisten but DO NOT saturate fabric. For valuable rugs or cloth items, consider hiring a pest control professional.   |
|   | beta-cyfluthrin (Bayer Advanced)                                | A                  |   |
|   | bifenthrin (Ortho)  | A, L               |   |
|   | cypermethrin (Black Flag)                                       | A                  |   |
|   | deltamethrin (Black Flag, Spectracide)                          | A                  |   |
|   | diatomaceous earth (Perma-Guard)                                | D                  |   |
|   | d-phenothrin (Raid)   | A                  |   |
|   | gamma-cyhalothrin (Spectracide)                                 | L                  |   |

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|---|--|--------------------|--|
| <b>CARPET BEETLE</b><br><b>(a) Nonfabric areas and infested areas of carpets only</b> | imiprothrin (Hot Shot)                                     | A                  | Imiprothrin is formulated with other pesticides in these products.<br><br>Use Cynoff insecticide as a crack and crevice treatment in closets and other storage areas where these pests are found. This is an adjunct treatment and will not control moth larvae already on the clothes. <b>DO NOT</b> apply this product directly to clothing. |
|   | prallethrin (Ortho)  | A                  |  |
|   | pyrethrins, pyrethrum                                      | A                  |  |
|   | zeta-cypermethrin (Cynoff)                                 | D                  |  |
| <b>CARPET BEETLE</b><br><b>(b) On fabric</b>  | allethrin (Ultra-Kill)                                     | A, L               | Other pyrethroids are also available ready-to-use. While many are specifically recommended for clothes moths, they are also effective on carpet beetles. <b>DO NOT</b> saturate fabric.  |
|   | diatomaceous earth (Perma-Guard)                           | D                  |  |
|   | prallethrin (Black Flag)                                   | A                  |  |
|   | pyrethrins, pyrethrum                                      | A, L               |  |
| <b>CENTIPEDE</b><br><b>(a) Indoors</b>  | allethrin (Ultra-Kill)                                     | A, L               | Usually infest damp areas such as basements. Spot-treat cracks, crevices and moldings where pests may crawl. Some products are not suitable for use in residential kitchens or commercial food/feed preparation sites. Read the product label carefully.<br><br>Imiprothrin is formulated with other pesticides in these products.             |
|   | beta-cyfluthrin (Bayer Advanced)                           | A, L               |  |
|   | cypermethrin (Spectracide)                                 | A, L               |  |
|   | cypermethrin (Black Flag, Hi-Yield, Hot Shot, Spectracide) | A, F, L            |  |
|   | deltamethrin (Spectracide)                                 | L                  |  |
|   | diatomaceous earth (Perma-Guard)                           | D                  |  |
|   | gamma-cyhalothrin (Spectracide)                            | L                  |  |
|   | imiprothrin (Hot Shot, Raid)                               | A                  |  |
|   | permethrin (various)                                       | A                  |  |
|   | prallethrin (Ortho)  | A                  |  |
|   | pyrethrins, pyrethrum                                      | A                  |  |
| zeta-cypermethrin (Cynoff)  | D  |                    |  |
| <b>CENTIPEDE</b><br><b>(b) Outdoors</b>   | beta-cyfluthrin (Bayer Advanced)                           | L                  | Treat infested areas around building foundations, vents and similar access points. Barrier sprays of 12 to 18 inches along perimeter may be effective.   |
|   | bifenthrin (Ortho)   | G                  |  |
|   | cypermethrin (Hi-Yield)                                    | L                  |  |
|   | deltamethrin (Spectracide)                                 | L                  |  |
|   | diatomaceous earth (Perma-Guard)                           | D                  |  |
|   | gamma-cyhalothrin (Spectracide)                            | L                  |  |
|   | permethrin (various)                                       | L                  |  |
|   | tetramethrin (various)                                     | A                  |  |
|   | zeta-cypermethrin (Cynoff)                                 | D                  |  |

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|---|----------------------------------|---------------------------|---|--|
| <b>CHIGGER (red bug)<br/>(Outdoors)</b>                                       | beta-cyfluthrin (Bayer Advanced) | L                         | Apply to grass, bushes and weeds in infested areas. Thoroughly saturate soil, but avoid runoff into ponds, lakes or other bodies of water. Repeat as needed. Apply labeled repellent products to shoes, ankles and legs before entering suspected chigger-infested areas.   |  |
|   | bifenthrin (Ortho)               | G, L                      |   |  |
|   | deltamethrin (Spectracide)       | L                         |   |  |
|   | gamma-cyhalothrin (Spectracide)  | L                         |   |  |
|   | lambda-cyhalothrin (Bonide)      | L                         |   |  |
|   | permethrin (various)             | L                         |   |  |
|   | tetramethrin (various)           | L                         |   |  |
| <b>CLOTHES MOTH<br/>(a) Nonfabric areas and infested areas of carpet only</b> |                                  |                           | See <b>Carpet Beetle</b> .  |  |
| <b>CLOTHES MOTH<br/>(b) On fabric</b>   |                                  |                           | See <b>Carpet Beetle</b> .  |  |
| <b>CLOTHES MOTH<br/>(c) In storage areas</b>                                  | dichlorvos (Hot Shot)            | FU strip                  | Hang strip in clothes closets or storage chests up to 1,000 cubic feet in capacity. Not for use in occupied rooms or in closets in occupied rooms. Follow label instructions carefully.   |  |
|   | paradichlorobenzene (various)    | Crystals or similar solid | Effective repellents on clean fabric in airtight enclosures. Avoid contact with plastic buttons and zippers.  |  |
| <b>CLOVER MITE<br/>(a) Indoors</b>  | allethrin (Ultra-Kill)           | A, L                      | Clover mite is strictly a nuisance pest. Treat around door thresholds. Some products are not suitable for use in residential kitchens or commercial food/feed preparation sites. Read the product label carefully.  |  |
|   | beta-cyfluthrin (Bayer Advanced) | A, L                      |   |  |
|   | deltamethrin (Spectracide)       | L                         |   |  |
|   | diatomaceous earth (Perma-Guard) | D                         |   |  |
|   | imiprothrin (Raid)               | A                         |   | Imiprothrin is formulated with other pesticides in these products. |
|   | gamma-cyhalothrin (Spectracide)  | L                         |   |  |
|   | permethrin (various)             | A                         |   |  |
|   | prallethrin (Ortho)              | A                         |   |  |
| pyrethrins, pyrethrum   | A                                |                           |   |  |
| <b>CLOVER MITE<br/>(b) Outdoors</b>   | beta-cyfluthrin (Bayer Advanced) | G, L                      | Treat around points of entry, such as foundations, vents, windows and doors. Maintain a 12-inch vegetation-free zone along foundation. Spray 1 to 2 feet high along the foundation wall and a 3- to 5-foot barrier on the grass or landscaped areas around the foundation. Water immediately after applying granules. |  |
|   | bifenthrin (Ortho)               | C, G                      |   |  |
|   | deltamethrin (Spectracide)       | L                         |   |  |
|   | diatomaceous earth (Perma-Guard) | D                         |   |  |
|   | gamma-cyhalothrin (Spectracide)  | L                         |   | Apply products as directed on the label.                           |
|   | permethrin (various)             | G, L                      |   |  |
|   | tetramethrin (various)           | L                         |   |  |

**HOUSEHOLD AND STRUCTURAL PEST CONTROL – Products for Use by the General Public and Products for Professional Use Only**

| <b>Pests</b>                      | <b>Insecticide</b>   | <b>Formulation</b> | <b>Precautions and Remarks</b>  |  |
|-----------------------------------|--|--------------------|---|--|
| <b>COCKROACH<br/>(a) Indoors</b>  | abamectin (Raid Max)                                       | S                  | Apply sprays along baseboards, under sinks, in cabinets and other infested areas. Remove and cover food, cooking and eating utensils before spraying cabinets. DO NOT restock shelves until surface dries completely. Some products are not suitable for use in residential kitchens or commercial food/feed preparation sites. Read the product label carefully. Place bait stations in infested areas; follow label instructions. Keep out of reach of children and pets. Sanitation is critical; before using baits, eliminate other food sources. Place bait stations in cabinets under sinks and behind stoves and refrigerators. Slow acting but gives long-lasting control. Force small amounts into all hidden nesting areas with dust applicator. Avoid over-application and inhalation of dust. Some formulations may contain pyrethrins or pyrethrum. DO NOT contaminate food preparation or storage sites. Use diatomaceous earth in the same manner as boric acid powders. |  |
|                                   | allethrin (Ultra-Kill)                                     | A, L               |   |  |
|                                   | beta-cyfluthrin (Bayer Advanced)                           | L                  |   |  |
|                                   | bifenthrin (Ortho)   | A, L               |   |  |
|                                   | boric acid (Bonide, Niban)                                 | B, D               |   |  |
|                                   | chlorpyrifos (Hot Shot)                                    | S                  |   |  |
|                                   | cypermethrin (Black Flag, Hi-Yield, Hot Shot, Spectracide) | A, F, L            |   |  |
|                                   | diatomaceous earth (Perma-Guard)                           | D                  |   |  |
|                                   | deltamethrin (Black Flag)                                  | L                  |   |  |
|                                   | dinotefuran (Hot Shot)                                     | S                  |   |  |
|                                   | eugenol (Bayer Advanced)                                   | L                  |   | Apply products as directed on the label.   |
|                                   | fipronil (Combat)  | B, S               |   |  |
|                                   | hydramethylnon (Amdro, Combat)                             | B                  |   |  |
|                                   | hydroprene (Egg Stopper)                                   | S                  |   | Hydroprene is an insect growth regulator and should be used with an adulticide. Imiprothrin is formulated with other pesticides in these products. |
|                                   | imiprothrin (Hot Shot, Raid)                               | A                  |   |  |
|                                   | indoxacarb (Hot Shot)                                      | B                  |   |  |
|                                   | gamma-cyhalothrin (Spectracide)                            | A, L               |   |  |
|                                   | lambda-cyhalothrin (Spectracide)                           | A, L               |   |  |
|                                   | lemongrass oil (Hot Shot)                                  | A, L               |   |  |
|                                   | permethrin (various)                                       | A                  |   |  |
| prallethrin (Ortho)               | A  |                    |   |  |
| pyrethrins, pyrethrum             | A  |                    |   |  |
| tetramethrin (various)            | F  |                    |   |  |
| zeta-cypermethrin (Cynoff)        | D  |                    |   |  |
| <b>COCKROACH<br/>(b) Outdoors</b> | beta-cyfluthrin (Bayer Advanced)                           | A, L               | Some species of cockroaches can live indoors and outdoors. Cockroaches that live outdoors tend to hide under mulch, ivy and similar cover. Treat groundcover and along foundation walls, patios and other areas where cockroaches are seen. Certain products cannot be used on or around edible plants. Read product labels for any limitations.<br><br>Apply products as directed on the label.  |  |
|                                   | bifenthrin (Ortho)   | A, L               |   |  |
|                                   | cypermethrin (Hi-Yield)                                    | L                  |   |  |
|                                   | deltamethrin (Spectracide)                                 | L                  |   |  |
|                                   | diatomaceous earth (Perma-Guard)                           | D                  |   |  |
|                                   | dinotefuran (Hot Shot)                                     | S                  |   |  |
|                                   | gamma-cyhalothrin (Spectracide)                            | G, L               |   |  |
|                                   | hydramethylnon (Amdro, Combat)                             | B                  |   |  |
| lambda-cyhalothrin (Spectracide)  | A, L   |                    |   |  |



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| <b>Pests</b>  | <b>Insecticide</b>   | <b>Formulation</b> | <b>Precautions and Remarks</b>  |
|---|--|--------------------|---|
| <b>COCKROACH</b><br><b>(b) Outdoors</b> (cont.)       | permethrin (various)                                       | A, L               |   |
|   | tetramethrin (various)                                     | A, L               |   |
|   | zeta-cypermethrin (Cynoff)                                 | D                  |   |
| <b>CRICKET</b><br><b>(Indoors and in crawlspaces)</b> | allethrin (Ultra-Kill)                                     | A                  | Crickets enter homes through basements and similar areas. Some formulations may be sprinkled along foundation. Read product label before using outdoors. Treat along foundation walls, patios and other areas where crickets are seen. Apply in a light 2- to 4-inch band around foundation. <b>DO NOT</b> use excessive amounts, and <b>DO NOT</b> apply to foliage of ornamentals or to food crops.<br><br>Apply products as directed on the label.<br><br>Imiprothrin is formulated with other pesticides in these products. |
|   | beta-cyfluthrin (Bayer Advanced)                           | L                  |   |
|   | bifenthrin (Ortho)   | A                  |   |
|   | boric acid (Bonide, Niban)                                 | B                  |   |
|   | cypermethrin (Black Flag, Hi-Yield, Hot Shot, Spectracide) | A, F, L            |   |
|   | deltamethrin (Spectracide)                                 | L                  |   |
|   | diatomaceous earth (Perma-Guard)                           | D                  |   |
|   | eugenol (Bayer Advanced)                                   | L                  |   |
|   | gamma-cyhalothrin (Spectracide) <b>OUTDOORS ONLY</b>       | G, L               |   |
|   | imiprothrin (Raid)   | A                  |   |
|   | lambda-cyhalothrin (Spectracide)                           | A, L               |   |
|   | permethrin (various)                                       | L                  |   |
|   | prallethrin (Ortho)  | A                  |   |
|   | pyrethrins, pyrethrum                                      | L                  |   |
| tetramethrin (various)                                | A  |                    |   |
| zeta-cypermethrin (Cynoff)                            | D  |                    |   |
| <b>EARWIG</b><br><b>(a) Indoors</b>                   | allethrin (Ultra-Kill)                                     | A                  | Repeat treatments may be necessary at two-week intervals. Some products are not suitable for use in residential kitchens or commercial food/feed preparation sites. Read the product label carefully.<br><br>Imiprothrin is formulated with other pesticides in these products.   |
|   | beta-cyfluthrin (Bayer Advanced)                           | L                  |   |
|   | bifenthrin (Ortho)   | A, L               |   |
|   | cypermethrin (Black Flag, Hi-Yield, Hot Shot, Spectracide) | A, F, L            |   |
|   | diatomaceous earth (Perma-Guard)                           | D                  |   |
|   | eugenol (Bayer Advanced)                                   | L                  |   |
|   | imiprothrin (Raid)   | A                  |   |
|   | gamma-cyhalothrin (Spectracide)                            | L                  |   |
|   | lambda-cyhalothrin (Spectracide)                           | A, L               |   |
|   | prallethrin (Ortho)  | A                  |   |
|   | tetramethrin (various)                                     | A                  |   |
| zeta-cypermethrin (Cynoff)                            | D  |                    |   |

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| <b>Pests</b>                         | <b>Insecticide</b>   | <b>Formulation</b> | <b>Precautions and Remarks</b>   |
|--------------------------------------|--|--------------------|--|
| <b>EARWIG</b><br><b>(b) Outdoors</b> | beta-cyfluthrin (Bayer Advanced)                           | L                  | Repeat treatments at 14-day intervals if necessary. Granular formulations are for outdoor use only and must be watered into soil or applied before rain.   |
|                                      | bifenthrin (Ortho)   | G, L               |  |
|                                      | cypermethrin (Hi-Yield)                                    | L                  |  |
|                                      | diatomaceous earth (Perma-Guard)                           | D                  |  |
|                                      | gamma-cyhalothrin (Spectracide)                            | G, L               |  |
|                                      | lambda-cyhalothrin (Spectracide)                           | L                  |  |
|                                      | permethrin (various)                                       | D, G, L            |  |
|                                      | prallethrin (Hot Shot, Raid)                               | A                  |  |
|                                      | tetramethrin (various)                                     | L                  |  |
|                                      | zeta-cypermethrin (Cynoff)                                 | D                  |  |
| <b>FLEA</b><br><b>(a) Indoors</b>    | allethrin (Ultra-Kill)                                     | D                  | Only use products specifically labeled for flea control. Apply to carpets and crevices in flooring. DO NOT leave chemical residue on surface. Avoid accidental inhalation during application. Treat sleeping quarters of pets and other localized areas, such as under cushions and furniture, as specified on label. Vacuum carpets and furniture before applying, and dispose of contents properly. Sprays may be used for general area treatment. Also treat cracks, crevices and similar areas only. Foggers are only effective when used in conjunction with other sprays to other critical areas. Treat infested animals with properly labeled product for lasting control. See also <b>ANIMAL INSECT CONTROL</b> section. |
|                                      | beta-cyfluthrin (Bayer Advanced)                           | L                  |  |
|                                      | bifenthrin (Ortho)   | A                  |  |
|                                      | boric acid (Bonide, Niban)                                 | D                  |  |
|                                      | cypermethrin (Black Flag, Hi-Yield, Hot Shot, Spectracide) | A, F, L            |  |
|                                      | deltamethrin (Spectracide)                                 | L                  |  |
|                                      | d-phenothrin (Raid)  | A                  |  |
|                                      | eugenol (Bayer Advanced)                                   | L                  |  |
|                                      | imiprothrin (Black Flag)                                   | A                  |  |
|                                      | lambda-cyhalothrin (Spectracide)                           | L                  |  |
|                                      | methoprene (Precor)  | A, F, L            | Methoprene products are insect growth regulators that control immature fleas only. Usually formulated with an adulticide.  |
|                                      | permethrin (various)                                       | L                  |  |
|                                      | phenoxybenzyl (Hot Shot)                                   | A                  | Apply as directed on the label.  |
|                                      | pyrethrins, pyrethrum                                      | L                  |  |
|                                      | pyriproxyfen (Archer, Nylar)                               | A, L               |  |
| tetramethrin (Enforcer)              | L  |                    |  |
| zeta-cypermethrin (Cynoff)           | D  |                    |  |
| <b>FLEA</b><br><b>(b) Outdoors</b>   | beta-cyfluthrin (Bayer Advanced)                           | L                  | Concentrate on kennels and shaded areas where animals tend to rest or congregate. Apply liquid formulations with sufficient spray volume to saturate soil. Granular formulations must be watered into soil or applied before rain. Repeat as needed at 4- to 6-week intervals. Apply as directed on the label. See also <b>ANIMAL INSECT CONTROL</b> section.  |
|                                      | bifenthrin (Ortho)   | L                  |  |
|                                      | cypermethrin (Hi-Yield)                                    | L                  |  |
|                                      | deltamethrin (Spectracide)                                 | L                  |  |
|                                      | diatomaceous earth (Perma-Guard)                           | D                  |  |
|                                      | gamma-cyhalothrin (Spectracide)                            | G, L               |  |
|                                      | lambda-cyhalothrin (Spectracide)                           | L                  |  |
|                                      | permethrin (various)                                       | L                  |  |
| tetramethrin (various)               | L  |                    |  |

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| <b>Pests</b>   | <b>Insecticide</b>   | <b>Formulation</b> | <b>Precautions and Remarks</b>  |
|--|--|--------------------|---|
| <b>FLIES</b><br><b>(a) Indoors</b>   | allethrin (Ultra-Kill)                                     | A                  | Strips can only be used in unoccupied areas. Apply as labeled to areas or objects (such as garbage cans) infested with flies. Repeat treatments as may be necessary. See label before treating areas of vegetation. Sanitation in the area is essential for satisfactory control of flies.    |
|  | beta-cyfluthrin (Bayer Advanced)                           | L                  |   |
|  | cypermethrin (Black Flag, Hi-Yield, Hot Shot, Spectracide) | A, F, L            |   |
|  | deltamethrin (Black Flag, Spectracide)                     | A                  |   |
|  | dichlorvos (Vapona, Pest Strip, Ortho No-Pest, Hot Shot)   | FU strip           |   |
|  | eugenol (Bayer Advanced)                                   | L                  |   |
|  | d-phenothrin (Raid)  | A                  |   |
|  | lemongrass oil (Hot Shot)                                  | A                  |   |
|  | permethrin (various)                                       | A, F               |   |
|  | pyrethrins, pyrethrum (various)                            | A, L               |   |
| tetramethrin (various)   | L, F   |                    |   |
| <b>FLIES</b><br><b>(b) Outdoors</b>  | beta-cyfluthrin (Bayer Advanced)                           | L                  | Apply as a surface spray to areas or objects (such as garbage cans) infested  |
|  | bifenthrin (Ortho)   | L                  |   |
|  | cypermethrin (Hi-Yield)                                    | L                  |   |
|  | deltamethrin (Black Flag, Spectracide)                     | A, L               |   |
|  | d-phenothrin (Raid)  | A                  |   |
|  | imidacloprid (Maxforce)                                    | B                  |   |
|  | lambda-cyhalothrin (Spectracide)                           | L                  |   |
|  | permethrin (various)                                       | L                  |   |
|  | prallethrin (Hot Shot)                                     | A                  |   |
|  | tetramethrin (various)                                     | A                  |   |
| <b>HORNETS, MUD DAUBERS, WASPS, YELLOW JACKETS</b><br><b>(a) Indoors</b>                 | allethrin (Ultra-Kill)                                     | A                  | Apply to insects as needed for quick knockdown. Mechanical control (swatting) is usually adequate. Use product with “crack and crevice” nozzle to reach nests in wall voids. Remove nest when wasps are dead.   |
|  | beta-cyfluthrin (Bayer Advanced)                           | L                  |   |
|  | cypermethrin (Black Flag, Hi-Yield, Hot Shot, Spectracide) | A, F, L            |   |
|  | d-phenothrin (Raid)  | A                  |   |
|  | prallethrin (Ultra-Kill, Spectracide)                      | A                  |   |
|  | pyrethrins, pyrethrum                                      | A, L               |   |
|  | S-bioallethrin (Spectracide)                               | A                  |   |
| tetramethrin (various)   | A  |                    |   |
| <b>HORNETS, MUD DAUBERS, WASPS, YELLOW JACKETS</b><br><b>(b) Nest and adjacent areas</b> | beta-cyfluthrin (Bayer Advanced)                           | L                  | Apply to nest or opening after dark when insects have returned to nest. Repeat treatment may be necessary. Most are packaged in pressurized containers that direct an insecticide stream of up to 10 feet. For yellow jackets and other soil-dwelling wasps, apply chemical to nests in soil. |
|  | bifenthrin (Ortho)   | L                  |   |
|  | carbaryl (various)   | D, L               |   |
|  | cypermethrin (Hi-Yield)                                    | L                  |   |
|  | deltamethrin (Spectracide)                                 | A                  |   |
|  | diatomaceous earth (Perma-Guard)                           | D                  |   |

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| <b>Pests</b>   | <b>Insecticide</b>   | <b>Formulation</b> | <b>Precautions and Remarks</b>   |
|--|--|--------------------|--|
| <b>HORNETS, MUD DAUBERS, WASPS, YELLOW JACKETS</b><br><b>(b) Nest and adjacent areas</b> | d-phenothrin (Raid)  | A                  | Apply to nest or opening after dark when insects have returned to nest. Repeat treatment may be necessary. Most are packaged in pressurized containers that direct an insecticide stream of up to 10 feet. For yellow jackets and other soil-dwelling wasps, apply chemical to nests in soil.  |
|  | lambda-cyhalothrin (Hot Shot, Spectracide)                 | L                  |  |
|  | permethrin (various)                                       | L                  |  |
|  | prallethrin (Hot Shot, Spectracide, Ultra-Kill)            | A                  |  |
|  | tetramethrin (various)                                     | A                  |  |
|  | zeta-cypermethrin (Cynoff)                                 | D                  | Not for use on paper wasps.  |
| <b>LICE: body, head, crab</b><br><b>(on person)</b>                                      | malathion (Ovide)  | L                  | Shampoo formulations. Thoroughly treat infested areas of body with lotion. Wash infested clothing with strong soap and very hot water. Dryclean woolens. Ovide requires a physician's prescription. Insecticidal treatment of furniture, carpets or other areas of the home are not needed.  |
|  | permethrin (Nix)   | L                  |  |
|  | pyrethrins, pyrethrum (Rid)                                | L                  |  |
| <b>MILLIPEDE</b><br><b>(a) Indoors</b>   | allethrin (Ultra-Kill)                                     | A                  | Harmless pest is short-lived once indoors; therefore, insecticides may not be necessary. Spot-treat pest entrance areas (door thresholds). Outside treatment is necessary for satisfactory control. Some products are not suitable for use in residential kitchens or commercial food/feed preparation sites. Read the product label carefully.<br><br>Imiprothrin is formulated with other pesticides in these products.                        |
|  | beta-cyfluthrin (Bayer Advanced)                           | L                  |  |
|  | bifenthrin (Ortho)   | L                  |  |
|  | cypermethrin (Black Flag, Hi-Yield, Hot Shot, Spectracide) | A, F, L            |  |
|  | deltamethrin (Spectracide)                                 | A                  |  |
|  | diatomaceous earth (Perma-Guard)                           | D                  |  |
|  | imiprothrin (Raid)   | A                  |  |
|  | lambda-cyhalothrin (Hot Shot, Spectracide)                 | L                  |  |
|  | permethrin (various)                                       | D, L               |  |
|  | prallethrin (Hot Shot)                                     | A                  |  |
| pyrethrins, pyrethrum  | A  |                    |  |
| zeta-cypermethrin (Cynoff)   | D  |                    |  |
| <b>MILLIPEDE</b><br><b>(b) Outdoors</b>  | beta-cyfluthrin (Bayer Advanced)                           | L                  | Use as a barrier treatment along foundation wall, door threshold and window ledges. Some sprays may damage vegetation under hot, humid conditions. Read label precautions. For lawn treatment, apply an insecticide band 10 to 15 feet wide. Apply liquid formulations with sufficient spray volume to saturate soil. Use granular formulations outdoors only; water into soil or apply before rain. Repeat as needed at 4- to 6-week intervals. |
|  | bifenthrin (Ortho)   | G, L               |  |
|  | cypermethrin (Hi-Yield)                                    | L                  |  |
|  | diatomaceous earth (Perma-Guard)                           | D                  |  |
|  | gamma-cyhalothrin (Spectracide)                            | G, L               |  |
|  | lambda-cyhalothrin (Hot Shot, Spectracide)                 | D, G, L            |  |
|  | permethrin (various)                                       | D, G, L            |  |
|  | tetramethrin (various)                                     | L                  |  |
| zeta-cypermethrin (Cynoff)   | D  |                    |  |
| <b>MOSQUITOES</b><br><b>(a) Indoors</b>  | allethrin (Ultra-Kill)                                     | A                  | Aerosol sprays may provide temporary relief. Keep insects out by installing and repairing screens. Other labeled pyrethroids are also effective.   |
|  | beta-cyfluthrin (Bayer Advanced)                           | L                  |  |
|  | cypermethrin (Black Flag, Hi-Yield, Hot Shot, Spectracide) | A, F, L            |  |
|  | deltamethrin (Black Flag, Spectracide)                     | A                  |  |

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|---|---|--|---|
| <b>MOSQUITOES</b><br><b>(a) Indoors</b> (cont.)   | d-phenothrin (Raid)   | A  |   |
|   | lemongrass oil (Hot Shot)                                       | A  |   |
|   | permethrin (various)  | A  |   |
|   | pyrethrins, pyrethrum (Raid)                                    | A  |   |
|   | tetramethrin (various)  | F  |   |
| <b>MOSQUITOES</b><br><b>(b) Outdoors</b><br><br>(See also <b>INSECT CONTROL IN RECREATION AREAS</b> ) | <i>Bacillus thuringiensis</i> ( <i>Bti</i> ) (Mosquito Dunks)   | Solid  | <i>Bacillus thuringiensis</i> is a "biopesticide" containing bacteria that kill mosquitoes and some biting flies. Place in small ponds, bird baths and ornamental pools (not swimming pools). Follow instructions for specifics of application.   |
|   | beta-cyfluthrin (Bayer Advanced)                                | L  |   |
|   | bifenthrin (Ortho)  | L  |   |
|   | cypermethrin (Hi-Yield)   | L  | Long-term control requires eliminating or cleaning mosquito breeding areas, such as discarded containers, ditches and other artificial sources of standing water.   |
|   | deltamethrin (Black Flag, Spectracide)                          | A, L   | Spraying nearby vegetation may eliminate some mosquito resting sites, but some formulations may damage vegetation. Aerosols or foggers may be used for temporary relief when winds are insignificant. Use repellents on exposed body areas.   |
|   | gamma-cyhalothrin (Spectracide)                                 | G, L   |   |
|   | lambda-cyhalothrin (Spectracide)                                | L  |   |
|   | permethrin (various)  | A, L   |   |
|   | prallethrin (Ortho)   | A  |   |
| tetramethrin (various)  | A   |  |   |
| <b>OLD HOUSE BORER</b>  | aluminum phosphide (Phostoxin)                                  | FU   | Use aluminum phosphide for infested furniture, stacked lumber and other wood products. Apply under gas-tight tarpaulins or in a sealed chamber. Requires an Arkansas Class 3 General Fumigation Commercial Pesticide Applicator's License.  |
|   | beta-cyfluthrin (Bayer Advanced, Tempo)                         | L  | Spray, brush on or inject into wood. Seal holes in wood before injecting. Avoid runoff.   |
|   | bifenthrin (Ortho, Bifen, Talstar)                              | L  | Apply as directed on the label.   |
|   | cypermethrin (Demon TC)   | L  |   |
|   | deltamethrin (Suspend SC)                                       | L  |   |
|   | imidacloprid + cyfluthrin (Temprid SC)                          | L  | Apply as directed on the label.   |
|   | permethrin (Dragnet, various others)                            | L  | Apply as directed on the label.   |
|   | disodium octaborate tetrahydrate (Bora-Care, Tim-bor, Borathor) | D, L   | Spray, brush on or inject into wood. For permanent protection, a water repellent should be applied to exterior surfaces 2 to 3 weeks after treatment.   |
| sulfuryl fluoride (Vikane)  | FU  | Apply under gas-tight tarpaulins only. Hold for 24 hours at temperature above 60 degrees F. Requires an Arkansas Class 3 General Fumigation Commercial Pesticide Applicator's License. |   |
| <b>PANTRY PESTS</b><br><b>(Pests in food storage areas)</b>   | allethrin (Ultra-Kill)  | A  | Discard infested material. Overall treatment of storage shelves and pantry is usually not necessary. Treat cracks, crevices, moldings and similar areas only.   |
|   | beta-cyfluthrin (Bayer Advanced)                                | L  | Remove and cover food and cooking and eating utensils before spraying storage cabinets. DO NOT restock shelves until surfaces are dry. Cover treated shelves with shelf paper if desired. Some products are not suitable for use in residential kitchens or commercial food/feed preparation sites. Read the product label carefully. |
|   | bifenthrin (Ortho)  | L  |   |
|   | cypermethrin (various)  | L  |   |
|   | deltamethrin (Black Flag, Spectracide)                          | A  |   |
|   | diatomaceous earth (Perma-Guard)                                | D  |   |

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|--|---|--------------------|---|
| <b>PANTRY PESTS</b><br>(Pests in food storage areas) | eugenol (Bayer Advanced)  | L                  | Discard infested material. Overall treatment of storage shelves and pantry is usually not necessary. Treat cracks, crevices, moldings and similar areas only. Remove and cover food and cooking and eating utensils before spraying storage cabinets. DO NOT restock shelves until surfaces are dry. Cover treated shelves with shelf paper if desired. Some products are not suitable for use in residential kitchens or commercial food/feed preparation sites. Read the product label carefully.<br>Imiprothrin is formulated with other pesticides in these products. |
|  | fipronil (Maxforce FC Magnum Roach Killer Bait Gel)             | B                  |   |
|  | gamma-cyhalothrin (Spectracide)                                 | L                  |   |
|  | imiprothrin (Raid)  | A                  |   |
|  | permethrin (various)  | L                  |   |
|  | prallethrin (Hot Shot)  | A                  |   |
|  | pyrethrins, pyrethrum   | A, F               |   |
|  | zeta-cypermethrin (Cynoff)                                      | D                  |   |
| <b>POWDERPOST BEETLE</b>                             | aluminum phosphide (Phostoxin)                                  | FU                 | Use aluminum phosphide for infested furniture, stacked lumber or other wood products. Apply under gas-tight tarpaulins or in a sealed chamber. Requires an Arkansas Class 3 General Fumigation Commercial Pesticide Applicator's License.   |
|  | beta-cyfluthrin (Bayer Advanced, Tempo)                         | L                  | Coarse spray, brush on or inject into wood. Avoid excessive runoff.   |
|  | bifenthrin (Ortho, Bifen, Talstar)                              | L                  | Coarse spray, brush on or inject into wood. Avoid excessive runoff.   |
|  | chlorfenapyr (Phantom)  | L                  | Apply as directed on the label.   |
|  | cypermethrin (Demon TC)   | L                  | Apply as directed on the label.   |
|  | deltamethrin (Suspend SC)                                       | L                  | Apply as directed on the label.   |
|  | imidacloprid + cyfluthrin (Temprid SC)                          | L                  | Apply as directed on the label.   |
|  | lambda-cyhalothrin (Demand, Spectracide)                        | L                  | Apply as directed on the label.   |
|  | permethrin (Dragnet, various others)                            | L                  | Apply as directed on the label.   |
|  | disodium octaborate tetrahydrate (Bora-Care, Tim-bor, Borathor) | D, L               | For long-term protection, apply a water repellent to exterior surfaces 2 to 3 weeks after treatment.  |
|  | sulfuryl fluoride (Vikane)                                      | FU                 | Use sulfuryl fluoride for infested furniture, stacked lumber or other wood products. Apply under gas-tight tarpaulins only. Hold for 24 hours at temperature above 60 degrees F. Requires an Arkansas Class 3 General Fumigation Commercial Pesticide Applicator's License.   |
| <b>SCORPIONS</b>                                     | acetamiprid + bifenthrin (Transport)                            | L                  | Apply as directed on the label.   |
|  | beta-cyfluthrin (Bayer Advanced, Tempo)                         | L                  |   |
|  | bifenthrin (Bifen, Talstar)                                     | G, L               |   |
|  | cypermethrin (Cynoff, Demon, Martin's Viper)                    | L                  |   |
|  | diatomaceous earth (Mother Earth D)                             | D                  |   |
|  | gamma-cyhalothrin (Spectracide)                                 | G, L               |   |
|  | lambda-cyhalothrin (Demand, 228L, Spectracide)                  | G, L               |   |
|  | permethrin (Flee, Dragnet, Prelude, various others)             | L                  |   |
|  | phenothrin (Bedlam)   | L                  |   |
|  | pyrethrins, pyrethrum (Kicker, Pyrenone, various others)        | A, L               |   |
|  | silica gel (Drione, Tri-Die)                                    | D                  |   |

**HOUSEHOLD AND STRUCTURAL PEST CONTROL – Products for Use by the General Public and Products for Professional Use Only**

| <b>Pests</b>                                 | <b>Insecticide</b>   | <b>Formulation</b> | <b>Precautions and Remarks</b>   |  |
|--|--|--------------------|--|--|
| <b>SILVERFISH</b>                            | allethrin (Ultra-Kill)                                     | A                  | Treat cracks, crevices, moldings and similar areas. Attic treatment may be necessary. Apply to cracks and crevices and behind and underneath appliances. Spray along baseboards and other areas where silverfish are found.  |  |
|  | beta-cyfluthrin (Bayer Advanced)                           | L                  |  |  |
|  | bifenthrin (Ortho)   | L                  |  |  |
|  | cypermethrin (Black Flag, Hi-Yield, Hot Shot, Spectracide) | A, F, L            | Apply as directed on the label.  |  |
|  | deltamethrin (Black Flag, Spectracide)                     | A                  |  |  |
|  | diatomaceous earth (Perma-Guard)                           | D                  |  |  |
|  | gamma-cyhalothrin (Spectracide)                            | L                  |  |  |
|  | imiprothrin (Raid)   | A                  |  | Imiprothrin is formulated with other pesticides in these products. |
|  | lambda-cyhalothrin (Spectracide)                           | A, L               |  |  |
|  | permethrin (various)                                       | L                  |  |  |
|  | prallethrin (Ortho)  | A                  |  |  |
|  | pyrethrins, pyrethrum                                      | A                  |  |  |
| tetramethrin (various)                       | A  |                    |  |  |
| zeta-cypermethrin (Cynoff)                   | D  |                    |  |  |
| <b>SOWBUGS AND PILLBUGS<br/>(a) Indoors</b>  | allethrin (Ultra-Kill)                                     | A                  | Clean up breeding and hiding places; treat thoroughly. Outdoor barrier treatments along foundation and door thresholds are usually sufficient. Some products are not suitable for use in residential kitchens or commercial food/feed preparation sites. Read the product label carefully.   |  |
|  | beta-cyfluthrin (Bayer Advanced)                           | L                  |  |  |
|  | bifenthrin (Ortho)   | L                  |  |  |
|  | cypermethrin (Black Flag, Hi-Yield, Hot Shot, Spectracide) | A, F, L            |  |  |
|  | deltamethrin (Black Flag, Spectracide)                     | A, L               |  |  |
|  | diatomaceous earth (Perma-Guard)                           | D                  |  |  |
|  | gamma-cyhalothrin (Spectracide)                            | L                  |  |  |
|  | lambda-cyhalothrin (Spectracide)                           | A, L               |  |  |
|  | permethrin (various)                                       | A                  |  |  |
|  | prallethrin (Ortho)  | A                  |  |  |
| pyrethrins, pyrethrum                        | A  |                    |  |  |
| zeta-cypermethrin (Cynoff)                   | D  |                    |  |  |
| <b>SOWBUGS AND PILLBUGS<br/>(b) Outdoors</b> | beta-cyfluthrin (Bayer Advanced)                           | L                  | Use as a barrier treatment along foundation wall, door threshold and window ledges. Oil (petroleum-distillate) sprays may harm asphalt, rubber and vinyl tiles. Some sprays may damage vegetation under hot, humid conditions. Read label precautions. For lawn treatment, apply an insecticide band 10 to 15 feet wide. Apply liquid formulations with sufficient spray volume to saturate soil. Granular formulations are for outdoor use only and must be watered into soil or applied before rain. Repeat as needed at 4- to 6-week intervals. |  |
|  | bifenthrin (Ortho)   | G, L               |  |  |
|  | cypermethrin (Hi-Yield)                                    | L                  |  |  |
|  | deltamethrin (Spectracide)                                 | A                  |  |  |
|  | diatomaceous earth (Perma-Guard)                           | D                  |  |  |
|  | gamma-cyhalothrin (Spectracide)                            | G, L               |  |  |
|  | lambda-cyhalothrin (Spectracide)                           | L                  |  |  |
|  | permethrin (various)                                       | D, G, L            |  |  |
|  | tetramethrin (various)                                     | L                  |  |  |
| zeta-cypermethrin (Cynoff)                   | D  |                    |  |  |

**HOUSEHOLD AND STRUCTURAL PEST CONTROL – Products for Use by the General Public and Products for Professional Use Only**

| <b>Pests</b>                                  | <b>Insecticide</b>   | <b>Formulation</b> | <b>Precautions and Remarks</b>  |
|---|--|--------------------|---|
| <b>SPIDERS<br/>(a) Indoors</b>                | allethrin (Ultra-Kill)                                     | A                  | Treat infested areas along baseboards. Use foggers if rooms have been undisturbed for some time and spider populations are extensive. Some products are not suitable for use in residential kitchens or commercial food/feed preparation sites. Read the product label carefully.<br><br>Apply as directed on the label.<br><br>Imiprothrin is formulated with other pesticides in these products.<br><br>Not for use on black widow and brown recluse spiders.   |
|   | beta-cyfluthrin (Bayer Advanced)                           | L                  |   |
|   | bifenthrin (Ortho)   | L                  |   |
|   | cypermethrin (Black Flag, Hi-Yield, Hot Shot, Spectracide) | A, F, L            |   |
|   | deltamethrin (Black Flag, Spectracide)                     | A                  |   |
|   | diatomaceous earth (Perma-Guard)                           | D                  |   |
|   | eugenol (Bayer Advanced)                                   | L                  |   |
|   | gamma-cyhalothrin (Spectracide)                            | L                  |   |
|   | imiprothrin (Raid)   | A                  |   |
|   | lambda-cyhalothrin (Spectracide)                           | A, L               |   |
|   | permethrin (various)                                       | A                  |   |
|   | prallethrin (Ortho)  | A                  |   |
|   | pyrethrins, pyrethrum                                      | A                  |   |
| tetramethrin (various)                        | A  |                    |   |
| zeta-cypermethrin (Cynoff)                    | D  |                    |   |
| <b>SPIDERS<br/>(b) Outdoors</b>               | beta-cyfluthrin (Bayer Advanced)                           | L                  | Apply as a barrier treatment along foundation. Spray corners of decks, eaves, porches and other areas where spiders tend to build webs. Webbing can be knocked down as an alternative. Exercise caution when spraying in crawlspace. Avoid inhaling spray.<br><br>Apply as directed on the label.<br><br>Not for use on black widow and brown recluse spiders.  |
|   | bifenthrin (Ortho)   | L                  |   |
|   | cypermethrin (Hi-Yield)                                    | L                  |   |
|   | deltamethrin (Black Flag, Spectracide)                     | A                  |   |
|   | diatomaceous earth (Perma-Guard)                           | D                  |   |
|   | gamma-cyhalothrin (Spectracide)                            | G, L               |   |
|   | lambda-cyhalothrin (Spectracide)                           | L                  |   |
|   | permethrin (various)                                       | L                  |   |
|   | tetramethrin (various)                                     | L                  |   |
| zeta-cypermethrin (Cynoff)                    | D  |                    |   |
| <b>SPRINGTAILS<br/>(Indoors and Outdoors)</b> | allethrin (Ultra-Kill)                                     | A                  | Apply as a barrier spray along foundation and entry points. Some products may be used indoors for temporary relief. Clean up moisture conditions that may attract insects indoors. Excess moisture may impede product effectiveness. Use indoors for temporary relief. Some products are not suitable for use in residential kitchens or commercial food/feed preparation sites. Read the product label carefully.<br><br>Apply as directed on the label.<br><br>Imiprothrin is formulated with other pesticides in these products. |
|   | beta-cyfluthrin (Bayer Advanced)                           | L                  |   |
|   | bifenthrin (Ortho)   | L                  |   |
|   | cypermethrin (Black Flag, Hi-Yield, Hot Shot, Spectracide) | A, F, L            |   |
|   | deltamethrin (Spectracide)                                 | A                  |   |
|   | diatomaceous earth (Perma-Guard)                           | D                  |   |
|   | gamma-cyhalothrin (Spectracide)                            | G, L               |   |
|   | imiprothrin (Raid)   | A                  |   |
| lambda-cyhalothrin (Spectracide)              | L  |                    |   |



**HOUSEHOLD AND STRUCTURAL PEST CONTROL – Products for Use by the General Public and Products for Professional Use Only**

| <b>Pests</b>   | <b>Insecticide</b>  | <b>Formulation</b> | <b>Precautions and Remarks</b>   |
|--|---|--------------------|--|
| <b>SPRINGTAILS<br/>(Indoors and Outdoors)</b><br>(cont.) | permethrin (various)  | L                  |  |
|  | prallethrin (Ortho)   | A                  |  |
|  | pyrethrins, pyrethrum   | A                  |  |
|  | tetramethrin (various)  | A                  |  |
|  | zeta-cypermethrin (Cynoff)                                      | D                  |  |
| <b>STINGING CATERPILLARS</b>                             |   |                    | See <b>Caterpillar</b> entry under <b>INSECT CONTROL FOR ORNAMENTALS GROWN IN NURSERIES OR LANDSCAPES</b> section.   |
| <b>STINK BUGS<br/>(Indoors and outdoors)</b>             | beta-cyfluthrin (Bayer Advanced)                                | L                  | Apply as directed on label.  |
|  | bifenthrin (Ortho)  | L                  | Apply as directed on label.  |
|  | cypermethrin (Raid)   | A                  | Apply as directed on label.  |
|  | deltamethrin (Raid)   | A                  | Apply as directed on label.  |
|  | gamma-cyhalothrin (Spectracide)                                 | G, L               | Apply as directed on label.  |
| <b>STORED FOOD PESTS</b>                                 |   |                    | See <b>Pantry Pests</b> .  |
| <b>TERMITE DRYWOOD SPECIES<br/>(Wood treatment)</b>      | acetamiprid + bifenthrin (Transport)                            | L                  | Coarse spray or drill and inject into wood.  |
|  | aluminum phosphide (Phostoxin)                                  | FU                 | Apply under gas-tight tarpaulins or in sealed chamber. Requires an Arkansas Class 3 General Fumigation Commercial Pesticide Applicator's License.                                      |
|  | beta-cyfluthrin (Bayer Advanced, Tempo)                         | L                  | Coarse surface spray or inject into wood.  |
|  | bifenthrin (Ortho, Bifen, Talstar)                              | L                  | Coarse spray or inject into wood.  |
|  | cypermethrin (Demon TC)   | L                  | Coarse spray or inject into wood for localized infestations.   |
|  | dinotefuran (Alpine)  | FM, L              | Apply as directed on label.  |
|  | fipronil (Termidor, Taurus)                                     | FM, L              | Coarse spray or inject into wood.  |
|  | imidacloprid (Dominion, Premise)                                | FM, L              | Drill and inject spray or foam into voids.   |
|  | imidacloprid + cyfluthrin (Temprid SC)                          | L                  | Apply as directed on label.  |
|  | lambda-cyhalothrin (Demand, Spectracide)                        | L                  | Apply as directed on label. Localized treatments. Spectracide is not recommended as a sole protection against termites.  |
|  | permethrin (Dagnet, various others)                             | L                  | Coarse spray on wood for localized infestation.  |
|  | disodium octaborate tetrahydrate (Bora-Care, Tim-bor, Borathor) | L                  | Coarse surface spray or inject wood.   |
|  | sulfuryl fluoride (Vikane)                                      | FU                 | Apply under gas-tight tarpaulins only. Hold for 24 hours at temperature above 60 degrees F. Requires an Arkansas Class 3 General Fumigation Commercial Pesticide Applicator's License. |
|  | thiamethoxam (Optigard)   | L                  | Coarse spray or drill and inject into wood.  |

**HOUSEHOLD AND STRUCTURAL PEST CONTROL – Products for Use by the General Public and Products for Professional Use Only**

| <b>Pests</b>   | <b>Insecticide</b>  | <b>Formulation</b> | <b>Precautions and Remarks</b>   |
|--|---|--------------------|--|
| <b>TERMITE DRYWOOD SPECIES<br/>(Wood treatment)</b>        | zeta-cypermethrin (Cynoff)                                      | D                  | This product is intended to kill workers and/or winged reproductive forms of termites present at the time of application only. Application of this product will not provide structural protection nor substitute for mechanical alteration, soil or foundation treatment with termiticide. This product is not to be used as sole protection against termites, as it is not intended for use for elimination of termite infestations nor for protection against future infestations. A professional inspection is recommended. |
| <b>TERMITE SUBTERRANEAN SPECIES<br/>(a) Wood treatment</b> | acetamiprid + bifenthrin (Transport)                            | L                  |  |
|  | beta-cyfluthrin (Bayer Advanced, Tempo)                         | L                  | Coarse spray, brush on or inject into wood. Avoid excess runoff.   |
|  | bifenthrin (Ortho, Bifen, Talstar)                              | L                  | For use only in voids or channels in damaged wood or to cracks and spaces between wooden members of structures.  |
|  | chlorantraniliprole (Altriset)                                  | L                  | Coarse spray around or inject into infested poles, trees and stumps (outdoors).  |
|  | chlorfenapyr (Phantom)  | L                  | Coarse spray or inject into wood.  |
|  | cypermethrin (Demon TC)   | L                  | Coarse surface spray or inject into wood.  |
|  | deltamethrin (Suspend SC)                                       | L                  | Coarse surface spray or inject into wood.  |
|  | diflubenzuron (Advance, Isopthor, Labyrinth, Truth)             | S                  | Aboveground stations used in conjunction with in-ground baiting systems.   |
|  | dinotefuran (Alpine)  | FM, L              | Apply as directed on label.  |
|  | fipronil (Termidor, Taurus)                                     | FM, L              | Coarse spray or inject into wood.  |
|  | imidacloprid (Premise)  | B, FM, L           | Gel and foam formulations may be injected into voids or damaged wood.  |
|  | imidacloprid + cyfluthrin (Temprid SC)                          | L                  | Apply as directed on label.  |
|  | lambda-cyhalothrin (Demand, Spectracide)                        | L                  | Apply as directed on label. Localized treatments. Spectracide is not recommended as a sole protection against termites.  |
|  | noviflumuron (Recruit IV AG)                                    | S                  | Available only as part of the Sentricon in-ground system.  |
|  | permethrin (Dragnet, various others)                            | L                  | Coarse spray, brush on or inject into wood. Avoid excessive runoff.  |
|  | disodium octaborate tetrahydrate (Bora-Care, Tim-bor, Borathor) | D, L               | Spray, brush on or inject into wood. For long-term protection, apply a water repellent to exterior wood surfaces 2 to 3 weeks after treatment. Not a replacement for soil treatment.   |
|  | zeta-cypermethrin (Cynoff)                                      | D                  | This product is intended to kill workers and/or winged reproductive forms of termites present at the time of application only. Application of this product will not provide structural protection nor substitute for mechanical alteration, soil or foundation treatment with termiticide. This product is not to be used as sole protection against termites, as it is not intended for use for elimination of termite infestations nor for protection against future infestations. A professional inspection is recommended. |

**HOUSEHOLD AND STRUCTURAL PEST CONTROL – Products for Use by the General Public and Products for Professional Use Only**

| <b>Pests</b>  | <b>Insecticide</b>                                 | <b>Formulation</b>          | <b>Precautions and Remarks</b>  |
|---|--|-----------------------------|---|
| <b>TERMITE SUBTERRANEAN SPECIES</b><br><b>(b) Soil treatment</b><br><br><b>NOTE:</b> Most structural termite infestations require treatment by a pest control professional with a Class 1 Termite and Other Structural Pest Control License issued by the Arkansas State Plant Board. | acetamiprid + bifenthrin (Transport)               | L                           | Apply as directed on label.   |
|   | beta-cyfluthrin (Bayer Advanced, Tempo)            | L                           | Apply as directed on label.   |
|   | bifenthrin (Bifen, Ortho, Talstar)                 | L                           | Apply as directed on label.   |
|   | chlorfenapyr (Phantom)                             | L                           | Apply as directed on label.   |
|   | chlorantraniliprole (Altriset)                     | L                           | Apply as directed on label.   |
|   | cypermethrin (Demon, Prevail FT)                   | L                           | Apply as directed on label.   |
|   | diflubenzuron (Advance, Isophor, Labyrinth, Truth) | S                           | Apply as directed on label.   |
|   | fipronil (Termidor, Taurus)                        | L                           | Apply as directed on label.   |
|   | hexaflumuron (Shatter)                             | B                           | Shatter is for localized treatments.  |
|   | imidacloprid (Bayer Advanced, Premise)             | G, L                        | Apply as directed on label.   |
|   | imidacloprid + cyfluthrin (Temprid SC)             | L                           | Apply as directed on label.   |
|   | indoxacarb (Arilon)                                | L                           | Arilon should be used for spot or localized treatment only. (Arilon is not intended as a sole protection against termites.) |
|   | lambda-cyhalothrin (Demand, Spectracide)           | L                           | Apply as directed on label.   |
|   | novaluron (Trelona)                                | B                           | Apply as directed on label.   |
|   | noviflumuron (Recruit HD)                          | S                           | Apply as directed on label.   |
| permethrin (Dagnet)   | L  | Apply as directed on label. |   |
| <b>TICKS (Outdoors)</b>   |  |                             | See <b>Brown Dog Tick</b> and control of ticks in <b>ANIMAL INSECT CONTROL</b> section.                                     |
| <b>WASPS, YELLOW JACKETS</b>  |  |                             | See <b>Hornets, Mud Daubers, Wasps, Yellow Jackets</b> .  |

**INDUSTRIAL AND HOUSEHOLD PESTS – Pesticides for use by licensed pest control operators only**

| Chemical Class <sup>1</sup> | Inorganic                  |  |                                      |  | Carbamates          |                             |   | Organophosphates   |                    |   | Pyrethroids                 |                                 |                              |  |  |  |                           |                      |   |                             |                               |                     |   |   |   |
|-----------------------------|----------------------------|--|--------------------------------------|--|---------------------|-----------------------------|---|--------------------|--------------------|---|-----------------------------|---------------------------------|------------------------------|--|--|--|---------------------------|----------------------|---|-----------------------------|-------------------------------|---------------------|---|---|---|
|                             | Boric acid (Niban, InTice) | Diatomaceous earth (Perma-Guard, Mother Earth D) | Silica gel (Drione, Tri-Die, CimeXa) | Sodium Tetraborate (Advance 388B, Cymex) | Methomyl (Stimukil) | Propoxur (Invader, Prenbay) |   | Acephate (Orthene) | Dichlorvos (Nuvan) |   | Bifenthrin (Bifen, Talstar) | Cyfluthrin (Tempo, Tempo Ultra) | Cypermethrin (Demon, Cynoff) | Deltamethrin (DeltaDust, DeltaGard, Suspend) | Deltamethrin (DeltaDust, DeltaGard, Suspend) | Deltamethrin (DeltaDust, DeltaGard, Suspend) | Esfenvalerate (Onslaught) | Etofenprox (Zenprox) | Lambda-cyhalothrin (Cyonara, Demand, Grenade) | Lambda-cyhalothrin (Demand) | Permethrin (Dragnet, Prelude) | Phenothrin (Bedlam) | Pyrethrins and pyrethrum (Kicker, Pyrenone) | Pyrethrins and pyrethrum (Kicker, Pyrenone) | Pyrethrins and pyrethrum (Kicker, Pyrenone) |
| Pesticide                   | B, D                       | D <sup>3</sup>                                   | D <sup>3</sup>                       | B  | B                   | B                           | S | S                  | Strip              | S | S, G                        | S                               | S                            | D  | G  | S  | S                         | S                    | S   | G                           | S                             | S                   | A <sup>3</sup>                              | S <sup>3</sup>                              | D <sup>3</sup>                              |
| Formulation <sup>2</sup>    |                            |  |                                      |  |                     |                             |   |                    |                    |   |                             |                                 |                              |  |  |  |                           |                      |   |                             |                               |                     |   |   |   |
| <b>Pests</b>                |                            |  |                                      |  |                     |                             |   |                    |                    |   |                             |                                 |                              |  |  |  |                           |                      |   |                             |                               |                     |   |   |   |
| ants                        | Y                          | Y  | Y                                    | Y  |                     |                             | Y | Y                  |                    | Y | Y                           | Y                               | Y                            | Y  | Y  | Y  | Y                         | Y                    | Y   | Y                           | Y                             | Y                   | Y   | Y   | Y   |
| bed bugs                    | Y                          | Y  | Y                                    |  |                     |                             |   |                    | Y                  | Y |                             | Y                               |                              | Y  |  | Y  | Y                         | Y                    | Y   |                             | Y                             | Y                   |   | Y   | Y   |
| bees                        |                            |  | Y                                    |  |                     |                             |   | Y                  |                    | Y | Y                           | Y                               | Y                            |  |  | Y  | Y                         | Y                    | Y   |                             | Y                             |                     |   | Y   | Y   |
| booklice                    | Y                          | Y  | Y                                    |  |                     |                             |   | Y                  |                    |   |                             |                                 | Y                            |  |  | Y  |                           |                      |   |                             | Y                             | Y                   |   | Y   |   |
| bugs (true) <sup>4</sup>    | Y                          |  | Y                                    |  |                     |                             | Y | Y                  | Y                  |   | Y                           | Y                               | Y                            |  |  | Y  |                           | Y                    |   |                             | Y                             | Y                   |   |   |   |
| carpet beetles              |                            | Y  |                                      |  |                     |                             |   | Y                  | Y                  | Y |                             |                                 | Y                            |  | Y  | Y  | Y                         | Y                    | Y   |                             | Y                             |                     | Y   | Y   |   |
| centipedes                  | Y                          | Y  | Y                                    |  |                     |                             |   | Y                  |                    |   | Y                           | Y                               | Y                            | Y  | Y  | Y  | Y                         | Y                    | Y   |                             | Y                             | Y                   |   |   |   |
| clothes moths               |                            | Y  |                                      |  |                     |                             |   |                    | Y                  | Y |                             |                                 | Y                            |  | Y  |  |                           |                      |   |                             |                               |                     |   |   |   |
| clover mites                | Y                          | Y  | Y                                    |  |                     |                             | Y | Y                  |                    |   |                             | Y                               | Y                            |  | Y  |  |                           |                      |   | Y                           |                               | Y                   | Y   | Y   |   |
| cockroaches                 | Y                          | Y  | Y                                    |  |                     |                             | Y | Y                  | Y                  | Y | Y                           | Y                               | Y                            | Y  | Y  | Y  | Y                         | Y                    | Y   |                             | Y                             | Y                   | Y   | Y   | Y   |
| crickets                    | Y                          | Y  | Y                                    |  |                     |                             | Y | Y                  |                    | Y | Y                           | Y                               | Y                            |  |  | Y  | Y                         | Y                    | Y   | Y                           | Y                             | Y                   | Y   | Y   |   |
| earwigs                     | Y                          | Y  | Y                                    |  |                     |                             |   | Y                  | Y                  |   | Y                           | Y                               | Y                            |  |  |  | Y                         | Y                    | Y   | Y                           | Y                             | Y                   | Y   | Y   |   |
| fleas                       |                            | Y  | Y                                    |  |                     |                             |   | Y                  |                    | Y | Y                           | Y                               | Y                            |  | Y  |  | Y                         | Y                    | Y   |                             | Y                             | Y                   | Y   | Y   |   |
| flies/gnats                 | Y                          | Y  | Y                                    |  | Y                   | Y                           |   | Y                  | Y                  | Y | Y                           | Y                               | Y                            |  |  | Y  | Y                         | Y                    | Y   |                             | Y                             | Y                   | Y   | Y   |   |
| hornets/wasps               |                            |  | Y                                    |  |                     |                             |   | Y                  |                    | Y | Y                           | Y                               | Y                            |  |  | Y  | Y                         | Y                    | Y   |                             |                               | Y                   | Y   | Y   |   |
| lady beetles                |                            | Y  | Y                                    |  |                     |                             |   | Y                  |                    | Y | Y                           | Y                               |                              |  |  |  |                           |                      |   |                             | Y                             |                     |   |   |   |
| millipedes                  | Y                          | Y  | Y                                    |  |                     |                             | Y | Y                  |                    | Y | Y                           | Y                               |                              | Y  | Y  | Y  | Y                         | Y                    | Y   | Y                           | Y                             |                     |   |   |   |
| mosquitoes                  |                            |  |                                      |  |                     |                             |   |                    | Y                  | Y |                             | Y                               |                              |  |  | Y  | Y                         | Y                    | Y   |                             |                               |                     | Y   | Y   |   |
| pantry pests                | Y                          | Y  | Y                                    |  |                     |                             |   | Y                  |                    |   |                             | Y                               |                              |  |  | Y  |                           | Y                    | Y   |                             | Y                             |                     | Y   | Y   |   |
| scorpions                   |                            | Y  | Y                                    |  |                     |                             |   |                    |                    | Y | Y                           | Y                               |                              |  |  |  | Y                         |                      |   | Y                           | Y                             | Y                   | Y   | Y   |   |
| silverfish                  | Y                          | Y  | Y                                    |  | Y                   | Y                           | Y | Y                  | Y                  | Y |                             | Y                               | Y                            |  |  | Y  | Y                         | Y                    | Y   | Y                           | Y                             | Y                   | Y   | Y   |   |
| sowbugs                     |                            | Y  |                                      |  |                     |                             | Y | Y                  |                    | Y | Y                           | Y                               | Y                            |  | Y  | Y  | Y                         | Y                    | Y   |                             | Y                             | Y                   | Y   | Y   | Y   |
| spiders                     |                            | Y  |                                      |  |                     |                             | Y | Y                  | Y                  | Y | Y                           | Y                               | Y                            |  |  | Y  | Y                         | Y                    | Y   |                             | Y                             | Y                   | Y   | Y   | Y   |
| springtails                 |                            | Y  |                                      |  |                     |                             | Y | Y                  |                    | Y | Y                           | Y                               |                              | Y  |  | Y  |                           | Y                    |   |                             | Y                             | Y                   |   |   |   |
| ticks                       |                            |  | Y                                    |  |                     |                             | Y |                    |                    | Y | Y                           | Y                               | Y                            | Y  | Y  | Y  | Y                         | Y                    | Y   |                             | Y                             | Y                   | Y   |   |   |

<sup>1</sup>Alternating uses of insecticides in different chemical classes can help reduce the likelihood of the pests developing resistance to one group or class of compounds.  
<sup>2</sup>Formulation Designations: A = aerosol (includes crack and crevice); B = bait (granular, gel or station); D = dust; S = sprayable (concentrate or powder, some RTU formulations); G = granular.  
<sup>3</sup>Some formulations of diatomaceous earth and silica gel contain pyrethrins as a flushing agent. Some pyrethrins and pyrethroid formulations contain piperonyl butoxide as a synergist.  
<sup>4</sup>True bugs includes boxelder bugs, stink bugs, kudzu bugs and similar occasional invaders.

**INDUSTRIAL AND HOUSEHOLD PESTS – Pesticides for use by licensed pest control operators only**

| Chemical Class <sup>1</sup> | Insect Growth Regulators <sup>3</sup> |                              |                              |                                  | Neonicotinoids                       |                      |                      |                      |                      |  |                                       |                                | Other Classes                      |   |                                     |                        |                           |  |  |                                   |                     |                    |  |
|-----------------------------|---------------------------------------|------------------------------|------------------------------|----------------------------------|--------------------------------------|----------------------|----------------------|----------------------|----------------------|--|---------------------------------------|--------------------------------|------------------------------------|---|-------------------------------------|------------------------|---------------------------|--|--|-----------------------------------|---------------------|--------------------|--|
|                             | Hydoprene (Gentrol)                   | Methoprene (Altosid, Precor) | Methoprene (Altosid, Precor) | Pyriproxyfen (Archer, Ultracide) | Acetamiprid (Transport) <sup>5</sup> | Dinotefuran (Alpine) | Dinotefuran (Alpine) | Dinotefuran (Alpine) | Dinotefuran (Alpine) | Imidacloprid (Maxforce, Premise, Temprid) <sup>9</sup> | Thiamethoxam (Optigard) <sup>10</sup> | Clothianidin (Maxforce Impact) | Abamectin (Ascend, Avert, Advance) | Aluminum phosphide (Phostoxin) <sup>6</sup> | Chlorfenapyr (Phantom) <sup>7</sup> | Cytraniliprole (Zyrox) | d-Limonene (Orange Guard) | Fipronil (Maxforce F, TopChoice, Termidor <sup>8</sup> , Taurus) | 2-Phenylethyl propionate (EcoPCO AR-X) | Hydramethylinon (Amdro, Maxforce) | Indoxacarb (Advion) | Indoxacarb (Arlon) | Sulfuryl fluoride (Vikane, Profume) <sup>6</sup> |
| Formulation <sup>2</sup>    | A, S                                  | B                            | A, S                         | A, S                             | B, S                                 | B                    | A                    | D                    | FM                   | B, S   | B, S                                  |                                | B                                  | F   | S                                   | B                      | S                         | B, G, S  | A, S                                   | B                                 | B                   | WDG                | F  |
| <b>Pests</b>                |                                       |                              |                              |                                  |                                      |                      |                      |                      |                      |  |                                       |                                |                                    |   |                                     |                        |                           |  |  |                                   |                     |                    |  |
| ants                        | Y                                     | Y                            |                              | Y                                | Y                                    | Y                    | Y                    | Y                    | Y                    | Y  | Y                                     |                                | Y                                  |   | Y                                   |                        | Y                         | Y  | Y                                      | Y                                 | Y                   | Y                  |  |
| bed bugs                    |                                       |                              | Y                            | Y                                |                                      |                      | Y                    | Y                    |                      |  |                                       |                                |                                    |   | Y                                   |                        |                           |  |  |                                   |                     |                    | Y  |
| bees                        |                                       |                              |                              |                                  | Y                                    |                      |                      | Y                    |                      |  |                                       |                                |                                    |   |                                     |                        |                           |  | Y                                      |                                   |                     |                    |  |
| booklice                    |                                       |                              |                              |                                  |                                      |                      | Y                    |                      |                      |  |                                       |                                |                                    |   |                                     |                        |                           |  |  |                                   |                     |                    |  |
| bugs (true) <sup>4</sup>    |                                       |                              |                              |                                  | Y                                    |                      | Y                    | Y                    | Y                    |  | Y                                     |                                |                                    |   |                                     |                        | Y                         |  | Y                                      |                                   |                     |                    |  |
| carpet beetles              |                                       |                              |                              |                                  |                                      |                      | Y                    | Y                    |                      |  |                                       |                                |                                    |   |                                     |                        |                           |  |  |                                   |                     |                    | Y  |
| centipedes                  |                                       |                              |                              |                                  | Y                                    |                      |                      | Y                    |                      |  |                                       |                                |                                    |   |                                     |                        | Y                         |  | Y                                      |                                   |                     |                    |  |
| clothes moths               |                                       |                              |                              |                                  |                                      |                      |                      | Y                    |                      |  |                                       |                                |                                    |   |                                     |                        | Y                         |  |  |                                   |                     |                    | Y  |
| clover mites                |                                       |                              |                              |                                  | Y                                    |                      | Y                    |                      |                      |  |                                       |                                |                                    |   |                                     |                        | Y                         |  |  |                                   |                     |                    |  |
| cockroaches                 | Y                                     |                              |                              | Y                                | Y                                    | Y                    | Y                    | Y                    |                      | Y  | Y                                     |                                | Y                                  |   | Y                                   |                        | Y                         | Y  | Y                                      | Y                                 | Y                   | Y                  | Y  |
| crickets                    |                                       |                              |                              | Y                                | Y                                    |                      | Y                    | Y                    |                      |  | Y                                     |                                |                                    |   | Y                                   |                        | Y                         |  | Y                                      |                                   |                     | Y                  |  |
| earwigs                     | Y                                     |                              |                              |                                  | Y                                    |                      | Y                    | Y                    |                      |  |                                       |                                |                                    |   | Y                                   |                        | Y                         |  |  |                                   |                     |                    |  |
| fleas                       |                                       |                              | Y                            | Y                                | Y                                    |                      |                      | Y                    |                      |  |                                       |                                |                                    |   |                                     |                        | Y                         |  |  |                                   |                     |                    |  |
| flies/gnats                 | Y                                     |                              |                              | Y                                | Y                                    | Y                    | Y                    | Y                    |                      | Y  |                                       |                                |                                    |   | Y                                   | Y                      | Y                         |  |  |                                   |                     |                    |  |
| hornets/wasps               |                                       |                              |                              |                                  | Y                                    |                      |                      | Y                    |                      |  |                                       |                                |                                    |   | Y                                   |                        | Y                         |  | Y                                      |                                   |                     |                    |  |
| lady beetles                |                                       |                              |                              |                                  | Y                                    |                      |                      |                      |                      |  |                                       |                                |                                    |   | Y                                   |                        | Y                         |  |  |                                   |                     |                    |  |
| millipedes                  |                                       |                              |                              |                                  | Y                                    |                      | Y                    | Y                    |                      |  |                                       |                                |                                    |   | Y                                   |                        | Y                         |  | Y                                      |                                   |                     | Y                  |  |
| mosquitoes                  | Y                                     | Y                            |                              | Y                                | Y                                    |                      |                      |                      |                      |  |                                       |                                |                                    |   |                                     |                        | Y                         |  | Y                                      |                                   |                     |                    |  |
| pantry pests                | Y                                     |                              | Y                            | Y                                |                                      |                      | Y                    | Y                    |                      |  |                                       |                                |                                    | Y   | Y                                   |                        |                           |  | Y                                      |                                   |                     |                    | Y  |
| scorpions                   |                                       |                              |                              |                                  | Y                                    |                      |                      |                      |                      |  |                                       |                                |                                    |   | Y                                   |                        |                           |  |  |                                   |                     |                    |  |
| silverfish                  |                                       |                              |                              |                                  | Y                                    |                      | Y                    | Y                    |                      |  |                                       |                                |                                    |   | Y                                   |                        |                           |  | Y                                      |                                   |                     |                    |  |
| sowbugs                     |                                       |                              |                              |                                  | Y                                    | Y                    | Y                    | Y                    |                      |  | Y                                     |                                |                                    |   |                                     |                        | Y                         |  |  |                                   |                     |                    |  |
| spiders                     |                                       |                              |                              |                                  | Y                                    |                      | Y                    | Y                    |                      |  |                                       |                                |                                    |   | Y                                   |                        | Y                         |  | Y                                      |                                   |                     |                    |  |
| springtails                 |                                       |                              |                              |                                  | Y                                    |                      | Y                    |                      |                      |  |                                       |                                |                                    |   | Y                                   |                        | Y                         |  |  |                                   |                     |                    |  |
| ticks                       |                                       |                              |                              | Y                                | Y                                    |                      |                      |                      |                      |  |                                       |                                |                                    |   | Y                                   |                        | Y                         |  |  |                                   |                     |                    |  |

<sup>1</sup>Alternating uses of insecticides in different chemical classes can help reduce the likelihood of the pests developing resistance to one group or class of compounds.

<sup>2</sup>Formulation Designations: A = aerosol; B = bait (granular, gel or station); BR = briquet; D = dust; F = fumigant, FM = foam; G = granular; S = sprayable (concentrate or powder, some RTU formulations); WDG = water dispersible granule.

<sup>3</sup>IGR products are not typically effective against adult stage of pests. Use an adulticide to provide quicker control of pest population.

<sup>4</sup>True bugs includes boxelder bugs, stink bugs, kudzu bugs and similar occasional invaders.

<sup>5</sup>Transport spray also contains bifenthrin; outdoor use only.

<sup>6</sup>Requires a Class 3 General Fumigation or a Class 8 Food Related Fumigation License issued by the Arkansas State Plant Board.

<sup>7</sup>Chlorfenapyr labeled for indoor use only for these pests. Phantom is not a knockdown insecticide for pests such as wasps.

<sup>8</sup>Termidor is labeled for outdoor use only; use other fipronil products indoors.

<sup>9</sup>Temprid contains both imidacloprid and beta-cyfluthrin.

<sup>10</sup>Optigard is not for use against pharaoh ants or carpenter ants.