

Household Insects – Homeowners

CAUTION:

All insecticides are toxic to some degree; therefore, care should be exercised in their use. The manufacturer’s directions on the label in the use of the material must be followed explicitly.

Insect	Threats	Insecticides and Treatment*	Remarks
Ants (several species)	Feed on foods and may damage clothing; may also sting, causing severe reaction to some people.	Baits (active ingredient and product): sodium tetraborate decahydrate (Amdro Kills Ants Liquid Bait, Terro Liquid Ant Baits); hydramethylnon (Amdro Kills Ants Bait Stations and Stakes); orthoboric acid (Terro Perimeter Ant Bait); fipronil (Combat Max Ant Killing Bait Stations and Gel); abamectin (Raid Max Double Control Ant Baits, Raid Ant Baits III); dinotefuran (Hot Shot Ultra Clear Roach & Ant Gel Bait, Hot Shot Ultra Liquid Ant Bait); spinosad (Ortho Home Defense Liquid Ant Bait); thiamethoxam (Raid Precision Placement Ant Bait Gel)	Identify the insect. Remove food and clean up the area. Place bait where ants occur or congregate. May use several different baits at the same time to discover one that ants will consume. Care should be taken not to contaminate foodstuffs. Also treat nests in yard. Follow label.
		Crack and crevices: prallethrin, esfenvalerate, pyrethrins, pyrethrum, permethrin, tetramethrin, phenothrin, beta-cyfluthrin, cyfluthrin Indoor space: prallethrin, esfenvalerate, pyrethrins, pyrethrum, permethrin, tetramethrin, phenothrin, cyfluthrin, bifenthrin Outdoor barrier: prallethrin, esfenvalerate, permethrin, beta-cyfluthrin, cyfluthrin, bifenthrin, malathion, carbaryl Outdoor broadcast: hydramethylnon, pyriproxyfen, beta-cyfluthrin, esfenvalerate, bifenthrin, cyfluthrin, malathion, carbaryl	Follow label.
Ants (carpenter ants)	Damage wooden structures, making smooth, round holes in wood for nesting purposes.	Baits: fipronil (Maxforce Carpenter Ant Bait); abamectin (Advance Granular Ant Bait) Crack and crevice: deltamethrin (D-Fense Dust); dinotefuran (Alpine PT Aerosol; Alpine Ant and Termite Foam) Sprays: fipronil (Taurus SC); fipronil and imidacloprid (FUSE Termiticide & Insecticide)	Spraying infested areas in midspring will usually reduce populations for the season. Solve moisture problems and leaks. Stack firewood away from the house. Carpenter ants may move into houses from trees located near the house. Trim tree branches that contact structures. Seal cracks and openings for electrical and water lines that enter the building.
Ants (fire ants)	Sting people who disturb a nest. Multiple stings often occur, and stings are painful. Cause severe reaction to people who are allergic to the venom.	Baits: indoxacarb (Advion Fire Ant Bait, Ortho Fire Ant Killer Mound Bait); fipronil (Maxforce FC Fire Ant Bait); hydramethylnon (Amdro Granules Fire Ant Bait); hydramethylnon and s-methoprene (Amdro Kills Fire Ants Yard Treatment Bait; Extinguish Plus Fire Ant Bait);	For areas with heavy fire ant infestations and low numbers of beneficial native ants, a two-step method is suggested. The first step is a broadcast application of a bait insecticide over the entire yard in early- to midfall, and the second step is to treat individual problem mounds with an approved bait, drench, granule, or dust insecticide.

*Labels on insecticides should state “material may be used in the household” and should be registered by the EPA for that purpose.

Household Insects – Homeowners

Insect	Threats	Insecticides and Treatment*	Remarks
		<p>spinosad (Payback Fire Ant Bait); abamectin (Ascend Fire Ant Bait, Award II Fire Ant Bait); metaflumizone (Altrevin® Fire Ant Bait); pyriproxyfen (Distance and Esteem Fire Ant Bait); fenoxycarb (Award Fire Ant Bait)</p> <p>Contact (various active ingredients): allethrin, resmethrin, sumithrin, tetramethrin, bifenthrin, cyfluthrin, cypermethrin, deltamethrin, fenvalerate, fluvalinate, lambda- cyhalothrin, permethrin, s-bioallethrin, esfenvalerate, tefluthrin, tralomethrin, carbaryl, acephate, fipronil, boric acid.</p> <p>Botanicals: d-limonene, pyrethrins, rotenone, pine oil, turpentine.</p>	
Ants (pharaoh ants)	Indoor nuisance pest, especially in hospitals; causes the spread of infection, contaminates sterilized equipment and supplies, and disturbs patients. Also causes electrical interference and contaminates food.	<p>Baits: indoxacarb (Advion Ant Bait Arena, Advion Ant Bait Gel, Advion Ant Bait Kit); abamectin (Advance 375A Select Ant Bait); fipronil (Maxforce FC Ant Bait Stations); hydramethylnon (Amdro Kills Ants Bait Stations); boric acid; borax</p>	Difficult to manage. Spray applications will break the colonies into multiple colonies and make management more difficult. Place baits where the ants are trailing and in all areas ants are found. Use fat-based and sweet baits in combination. Try small amounts of baits to see which ones are preferred before applying extensive baiting (use less than 1 percent concentrations).
Ants (crazy ants)	Damages electrical and computer equipment. High number of ants (particularly tawny crazy ants) can cover the yard or landscape. Causes a negative impact on ecological systems by displacing other organisms.	<p>Baits: hydramethylnon (Maxforce Complete Granular Bait); abamectin (Advance Carpenter Ant Bait)</p> <p>Perimeter sprays: dinotefuran (Alpine WSG); imidacloprid (Dominion 2L Insecticide); permethrin (Hi-Yield Lawn, Garden, Pet, & Livestock Insect Killer, Hi-Yield 38 Plus Turf Termite and Ornamental Insect Control); bifenthrin (Ortho Home Defense); acephate (Orthene Spray 97); fipronil (Termidor SC)</p>	<p>Most ant baits are not effective for these ants. Baits alone are inadequate to reduce high densities of these ants but may be effective when densities are low in the spring. Use fresh bait and apply it when the ground is dry and no rain is expected for 24 hours. Broadcast bait over the entire infested area.</p> <p>The tawny crazy ant must be specifically identified from a parish before Termidor can be used for this pest. Louisiana received a Section 18 quarantine exemption use label for Termidor SC insecticide to be used in management of tawny crazy ants. The renewed exemption was authorized on April 22, 2019, and will expire April 22, 2022. The following parishes are included in the exemption: Ascension, Assumption, Beauregard, Calcasieu, East Baton Rouge, Iberia, Iberville, Jefferson, Lafayette, Lafourche, Livingston, Morehouse, Orleans, Rapides, St. Bernard, St. Charles, St. Landry, St. Martin, St. Mary, St. Tammany, Tangipahoa, Terrebonne, Vermilion, Vernon, Washington, and West Baton Rouge.</p> <p>When dead ants accumulate, carefully remove them with a leaf blower outdoors</p>

*Labels on insecticides should state “material may be used in the household” and should be registered by the EPA for that purpose.

Household Insects – Homeowners

Insect	Threats	Insecticides and Treatment*	Remarks
			or vacuum indoors. Do not disturb or remove the insecticide from the treated surfaces. Do not vigorously wipe or scrape clean treated surfaces.
Bed bugs	Feed at night by sucking blood of sleeping persons.	<p>Crack and crevice and mattress: deltamethrin (Buggslayer Insecticide RTU); diatomaceous earth (Hi-Yield Crawling Insect Control; InsectiGone Crawling Insect Killer); diatomaceous earth and pyrethrins (Results Indoor Insect Killer); phenothrin (Pronto Plus Bedbug & Dust Mite Killer, Ortho Home Defense Max Bedbug Killer)</p> <p>Residual sprays: bifenthrin (Bifen IT); esfenvalerate (Stop Bugging Me!, FenvaStar EcoCap); permethrin (Martin's Permethrin Termiticide/Insecticide); lambda-cyhalothrin (Demand CS, Surrender Brand Pestabs)</p> <p>Indoor spaces: cyfluthrin (Cy-Kick CS Controlled Release Insecticide); deltamethrin (Black Flag Home Insect Control Concentrate); synergized pyrethrins (CB-40 Insecticide, Clear Zone Double Impact Farm Fly Spray)</p> <p>Fumigation: sulfuryl fluoride</p> <p>Insect growth regulators: s-hydroprene (Gentrol IGR Concentrate)</p> <p>Traps (for detection only): ClimbUp Insect Interceptor</p>	<p>Eliminating bed bugs from a house is very difficult and requires killing the bugs in all infested sites throughout the entire house at the same time. The insecticides must contact the bed bugs when they are applied. Bed bugs may walk across insecticides and not be killed. Eggs are not killed by these insecticides. There is little residual from these insecticides, and applications may have to be repeated. Aerosol bombs are not effective. Few, if any, insecticides are labeled to treat mattresses or electrical wiring. Follow the label.</p> <p>Spray lightly in all cracks and baseboards, crevices of floors, behind loose wallpaper and other hiding places.</p> <p>Additionally, heat treatment, steam treatment, cold treatment, mattress encasings, CO₂ monitors and traps are important tools in managing bed bugs. These tools should be used in combination with insecticides. Treating wall voids with diatomaceous earth may be very advantageous. Do not use swimming pool grade diatomaceous earth.</p> <p>Sulfuryl fluoride products are restricted-use pesticides that can only be legally purchased and used by licensed professionals.</p>
Booklice (Psocids)	Damages book bindings, clothing and articles containing starch or glue. Damage is usually insignificant.	<p>Reduce moisture.</p> <p>Use commercially prepared insect spray containing 0.25% pyrethrins.</p> <p>Other active ingredients: lambda-cyhalothrin, cyfluthrin, acephate</p>	<p>Remove infested items and eliminate excessive moisture. Insecticides are not normally necessary to control booklice.</p> <p>When using insecticides for large and uncontrolled infestations, follow the label carefully to ensure safety.</p>
Carpenter bees	Drill round tunnels in wood for nesting purposes. Feces of carpenter bees can stain wood. More severe damage can be made by woodpeckers in search of bee larvae in the tunnels.	<p>Crack and crevice: pyrethrins and silica gel (Drione Dust); prallethrin and lambda-cyhalothrin (Spectracide Carpenter Bee & Ground-Nesting Yellow Jacket Killer Foaming Aerosol)</p>	<p>Dusts provide longer residual. Repeated applications may be needed.</p>
Carpet beetles	Feed on items composed of animal fibers, such as wool, furs, silk, feathers, felt and leather. Adults are small	<p>Crack and crevice: pyrethrins, tetramethrin, etofenprox and PBO (Zenprox Aerosol)</p> <p>Dusts: silicon dioxide (CimeXa Insecticide Dust)</p>	<p>Routine vacuum cleaning effectively removes carpet beetles as well as hair and lint. Clothing to be stored should be kept in tightly closed containers.</p>

*Labels on insecticides should state "material may be used in the household" and should be registered by the EPA for that purpose.

Household Insects – Homeowners

Insect	Threats	Insecticides and Treatment*	Remarks
	beetles, and only the larval stage feeds on fabric and causes damage.	Insect growth regulators: s-hydroprene (Gentrol IGR Concentrate)	Infested rugs, carpets, and furniture should be cleaned thoroughly before application of insecticide. Insecticides should not be used to treat clothing.
Clothes moths	Furs, rugs, clothing, overstuffed furniture and silken materials are the most common items attacked by the larvae of clothes moths. Adults are small moths but in the immature stage are small worms.	Storage: naphthalene (mothballs and moth flakes, various products); paradichlorobenzene (Enoz Moth Ice Crystals); dichlorovos (ProZap Insect Guard) Crack and crevice and indoor treatment: d-phenothrin, n-octyl bicycloheptene dicarboximide (synergist), imidacloprid (Bedlam Plus Aerosol Insecticide); imidacloprid and cyfluthrin (Temprid Ready Spray); deltamethrin (D-Fense SC Insecticide); tralomethrin; pyrethrin	CAUTION: Wet rugs must be protected from metal stains. Very important to find and clean up source of infestation. Dry clean garments in spring prior to storing in a box. Place moth balls or moth crystals in box before closing. May freeze infested items. Also see remarks above for carpet beetles.
Cockroaches	Feed on most foods, but also will damage book bindings, stamps, papers and starched clothing.	Baits: fipronil (Combat Max Roach Killing Gel and Baits); dinotefuran (Hot Shot Ultra Clear Roach and Ant Gel); indoxacarb (Raid Roach Gel); imidacloprid (Bayer Home Pest Roach Killer Gel); abamectin (Raid Double Control Roach Baits); abamectin and s-hydroprene (Raid Double Control Small Roach Baits Plus Egg Stoppers); hydramethylnon (Combat Roach Killing Bait, Ortho Home Defense Roach Bait) Indoor sprays: permethrin and pyriproxyfen (Bengal Gold Roach Spray); bifenthrin and zeta-cypermethrin (Ortho Home Defense Insect Killer for Indoor & Perimeter2); neo-pynamin and cypermethrin (Combat Max Ant & Roach Killing Foam Spray); imiprothrin and deltamethrin (Raid Max Ant & Roach Killer); cypermethrin (Demon WP); prallethrin; pyrethrins; tetramethrin; phenothrin; beta-cyfluthrin; cyfluthrin Dusts: deltamethrin (Delta Dust); diatomaceous earth (Hi-Yield Crawling Insect Control; InsectiGone Crawling Insect Killer); orthoboric acid (Borid Insecticide, Pic Orthoboric Acid); boric acid (Zap-A-Roach); cyfluthrin (Tempo Dust); pyrethrins and silica gel (Drione Dust) Outdoor: lambda-cyhalothrin (LambdaStar UltraCap 9.7) cypermethrin (Demon WP); prallethrin; esfenvalerate; cyfluthrin; beta-cyfluthrin; bifenthrin; malathion	To treat cockroaches indoors, use baits where cockroaches are found (mainly the kitchen). In cases of extreme infestation, use a fogger or spray to treat cracks and crevices where cockroaches live. Do not use insecticide sprays when baits are in use.

*Labels on insecticides should state “material may be used in the household” and should be registered by the EPA for that purpose.

Household Insects – Homeowners

Insect	Threats	Insecticides and Treatment*	Remarks
Earwigs, millipedes	Occasionally invade the home especially during wet, rainy weather. Contrary to common belief, these arthropods are harmless.	<p>Insect growth regulator: abamectin, hydroprene, pyriproxyfen</p> <p>Outdoor: bifenthrin (Bifen IT); lambda-cyhalothrin (Cyzmic CS, LambdaStar Ultracap 9.7); cypermethrin (Cyper WSP)</p> <p>Other active ingredients: acephate; pyrethrin; cyfluthrin; deltamethrin; permethrin; tralomethrin; prallethrin; boric acid; beta-cyfluthrin; disodium octaborate tetrahydrate; tau-fluvalinate; carbaryl (outdoor); malathion (outdoor)</p>	Treat outside area at least 15 feet from base of house. Particular attention should be paid to ground area adjacent to foundations of house, edges of walkways and carports of any cracks or crevices that could provide a hiding place. Also treat flower beds and other areas that are heavily mulched and remain damp. Remove any debris under which the insect is found. Treatment inside house is usually not practical.
Fleas	Feed on animals and humans and transmit disease.	<p>Indoor: pyriproxyfen, tetramethrin and sumithrin (Bengal Full Season Flea Killer); pyrethrins, tetramethrin and methoprene (Raid Flea Killer Plus Carpet and Room Spray); gamma-cyhalothrin and pyriproxyfen (Black Flag Flea & Tick Spray Plus Growth Regulator Home Treatment Aerosol and Ready-To-Use); dinotefuran, prallethrin, pyriproxyfen (PT Alpine Flea and Bed Bug Insecticide Aerosol with IGR); etofenprox, tetramethrin, pyrethrins, PBO, and s-methoprene (Precor 2625 Premise Spray); pyriproxyfen (Martin's I. G. Regulator); esfenvalerate (FenvaStar Plus); beta-cyfluthrin; bifenthrin; deltamethrin; permethrin; tralomethrin</p> <p>Outdoor: gamma-cyhalothrin and pyriproxy (Black Flag Flea & Tick Killer Concentrate Yard Treatment 2 Ready-To-Spray); esfenvalerate (FenvaStar Plus); pyriproxyfen (Martin's I. G. Regulator)</p> <p>Insect growth regulator: hydroprene, pyriproxyfen, methoprene, novaluron</p> <p>Traps (for detection only): Victor: The Ultimate Flea Trap</p>	<p>Fleas are very difficult to control. It usually takes two applications applied 10 days to 2 weeks apart to control them.</p> <p>It is important to treat the pet along with the premises, preferably on the same day. Adult fleas spend virtually their entire life on the animal, not in the carpet. Untreated pets will continue to be bothered by fleas. They may also transport fleas in from outdoors, eventually overcoming the effectiveness of the insecticide applied inside the home. Pets can be treated either by a veterinarian or the pet owner with labeled products such as Advantage or Frontline. Pet owners should always read the product label. Certain products can be used only on dogs and some list specific treatment procedures for puppies and kittens. Do not treat pets with the same products used to treat carpeting or the yard. It is also very important to treat where the pet sleeps, making sure the product used is labeled for use in the area treated. It is important that pets be kept off treated carpets and surfaces until the spray has completely dried.</p>
Houseflies	Flies are a nuisance around the home and contaminate food. Larvae breed in decaying organic matter, garbage and manure.	<p>pyrethrins and PBO (Country Vet CV-80D Aerosol, CB 80 Insecticide Aerosol); lambda-cyhalothrin (LambdaStar UltraCap 9.7); cypermethrin (Cyper WSP); deltamethrin (D-Fense Dust); trichlorfon (Dipterex); imidacloprid (Maxforce Fly Spot Bait); cyantraniliprole (Zyrox Fly Bait); methomyl and (Z)-9-tricosene (Golden Malrin Fly Bait); beta-cyfluthrin; cyfluthrin; permethrin; tetramethrin; esfenvalerate; prallethrin</p>	Spray screens, door facings, window jambs, porches, posts and other places where flies alight with 1 percent Dipterex and where pets, poultry or livestock cannot reach them. Inside homes use prepared spray containing pyrethrins. Keep premises clean. Eliminate fly-breeding sites.
Mosquitoes	Attack humans, pets, and livestock. They are blood feeders	<p>Long-lasting repellants: DEET; picaridin; permethrin</p> <p>Shorter-lasting repellants:</p>	Remove old cans, tires and other containers that might hold rainwater. Drain pools of stagnant water. Improve drainage in yard and around home.

*Labels on insecticides should state "material may be used in the household" and should be registered by the EPA for that purpose.

Household Insects – Homeowners

Insect	Threats	Insecticides and Treatment*	Remarks
	and may transmit disease.	<p>oil of lemon eucalyptus; IR3535</p> <p>Plant-based repellants: Lotions and creams last longer than liquids. Higher concentrations last longer than lower concentrations.</p> <p>Adults (outdoors in resting areas): malathion (Fyfanon ULV); cypermethrin (Demon Max); permethrin (various products, see labels); deltamethrin (D-Fense SC)</p> <p>Adults (indoors): pyrethrin + PBO or other commercially prepared aerosol products.</p>	<p>Use tight-fitting screens; spray potential resting areas on the building exterior and the building perimeter (shrubs, grass, etc.). Spray the interior walls of garages and sheds. Spray under porches and carports.</p> <p>Commercially prepared repellents can be used to avoid mosquito attack.</p>
Pantry pests	Small brown beetles and larvae of small moths infest flour meal, spices, dog food, grits, rice, oatmeal, cookies, candies, nuts and other cereal grain products.	<p>Indoor surface and crack and crevice: pyrethrin and PBO (Stryker 54); dinotefuran (Alpine Aerosol PT); deltamethrin (Delta Dust); pyrethrin, PBO and silica gel (Tri-Die Pressurized Dust); acephate; cyfluthrin; bifenthrin; permethrin; tralomethrin; lambda-cyhalothrin; esfenvalerate; prallethrin; boric acid; hydroprene</p> <p>Indoor space: hydroprene, pyrethrin, prallethrin, permethrin</p>	Place flour, meal, etc., in tight glass or plastic containers. Remove and destroy infested packages of food products. Remove everything from shelves and cabinets and treat the interior. Let shelves dry and cover with paper before replacing items. May freeze items. Rotate food products, eating them before 90 days.
Powder post beetles	When present, these very small black or brown beetles are usually found in sills, joints, floors or furniture. Their presence is indicated by tiny holes in the wood from which sawdust is exuded.	<p>Borate wood treatment: disodium octaborate tetrahydrate (Bora-Care, Tim-bor)</p> <p>Insecticides that will not penetrate wood: beta-cyfluthrin, bifenthrin, cyfluthrin, cypermethrin, deltamethrin, fenvalerate, imidacloprid, lambda-cyhalothrin.</p> <p>Fumigation: sulfuryl fluoride</p>	<p>Borate wood treatment products must be used under dry conditions. Apply as directed by label. Surface applications of borates will penetrate wood up to one-quarter inch.</p> <p>Sulfuryl fluoride products are restricted-use pesticides that can only be legally purchased and used by licensed professionals.</p>
Scorpions	Scorpions hide during the day and are active at night. They sting to kill prey or as a defense mechanism. They can sting people if agitated.	<p>Outdoor: esfenvalerate, prallethrin and PBO (Onslaught FastCap Spider and Scorpion Insecticide); bifenthrin (Bifen IT); lambda-cyhalothrin (LambdaStar Ultracap 9.7); cypermethrin (Cyper WSP)</p> <p>Dusts: deltamethrin (D-Fense Dust, Delta Dust); pyrethrins and silica gel (Drione Dust)</p> <p>Other active ingredients: cyfluthrin; permethrin; boric acid; beta-cyfluthrin; carbaryl (outdoor)</p>	<p>Eliminate harborage sites around the house, including trash, boards, stones and firewood.</p> <p>Spray around doorways, windows and other places where scorpions might enter. Dusts should be used to treat cracks and crevices.</p> <p>Follow label directions.</p>
Silver fish	Feed on cotton, rayon, nylon, silk, book bindings, wallpaper and materials containing starch; frequently injure books.	<p>Crack and crevice or indoor space: cyhalothrin (PT 221L Pressurized Insecticide); pyrethrins and PBO (CB 80 Insecticide Aerosol); esfenvalerate (FenvaStar Plus); imidacloprid and cyfluthrin (Temprid Ready Spray)</p>	<p>Eliminate sources of excessive moisture.</p> <p>Spray back wall, shelves, baseboards of cupboards, floors and shelves of clothes closets, around water pipes, lavatories, sinks and on the sides of book shelves. Spray around door and window frames of papered</p>

*Labels on insecticides should state “material may be used in the household” and should be registered by the EPA for that purpose.

Household Insects – Homeowners

Insect	Threats	Insecticides and Treatment*	Remarks
		<p>Outdoor: cyfluthrin, esfenvalerate, prallethrin, beta-cyfluthrin, bifenthrin, malathion, carbaryl</p> <p>Dusts: deltamethrin (Delta Dust, D-Fense Dust); pyrethrins and silica gel (Drione Dust); diatomaceous earth (Hi-Yield Crawling Insect Control; InsectiGone Crawling Insect Killer)</p> <p>Bait: orthoboric acid (InTice 10 Perimeter Bait)</p>	<p>rooms with a commercially prepared insect spray.</p> <p>Follow label.</p>
Spiders	Make unsightly webs in corners, on porches and under furniture. They do no other harm (except black widow, brown widow and brown recluse spiders).	<p>Crack and crevice: etofenprox, tetramethrin, PBO and pyrethrin (Zenprox Aerosol); pyrethrin and PBO (Stryker 54 Contact Spray); deltamethrin (D-Force HPX Aerosol)</p> <p>Outdoor: lambda-cyhalothrin (Cyzmic CS, LambdaStar Ultracap 9.7); cypermethrin (Cyper WSP); esfenvalerate, prallethrin and PBO (Onslaught FastCap Spider and Scorpion Insecticide)</p> <p>Other active ingredients: cyfluthrin; bifenthrin; permethrin; tralomethrin; boric acid; beta-cyfluthrin; imiprothrin; phenothrin, carbaryl (outdoor); malathion (outdoor)</p>	<p>Spray house overhang in May to reduce spider populations for most of the year. Use yellow lights to reduce the numbers of insects attracted to the house. Spiders come for the insects, wasps come for the spiders. Seal the structure to exclude spiders.</p>
Ticks	Ticks feed on animals and humans and transmit disease.	<p>Repellants: DEET; permethrin; picaridin</p> <p>Indoor: gamma-cyhalothrin and pyriproxyfen (Black Flag Flea & Tick Spray Plus Growth Regulator Home Treatment Aerosol and Ready-To-Use); pyriproxyfen and novaluron (Tekko Pro Insect Growth Regulator Concentrate); bifenthrin (Bifen IT); esfenvalerate (FenvaStar Plus); methoprene, permethrin, phenothrin (Precor 2000 Plus Premise Spray); pyrethrins and silica gel (Drione Dust); deltamethrin (D-Fense Dust); beta-cyfluthrin; cyfluthrin; deltamethrin; permethrin; tralomethrin; cypermethrin; tetramethrin; phenothrin; tau-fluvalinate</p> <p>Outdoor: pyriproxyfen and novaluron (Tekko Pro Insect Growth Regulator Concentrate); bifenthrin (Bifen IT); esfenvalerate (FenvaStar Plus); permethrin (Permethrin SFR Insecticide); pyrethrins; beta-cyfluthrin; cyfluthrin; deltamethrin; permethrin; tralomethrin</p>	<p>Follow label.</p>
Wasps (mud daubers, paper wasps)	Paper wasps are vicious stingers when disturbed. Mud daubers are usually not aggressive and	<p>Aerosol sprays: prallethrin (PT Wasp & Hornet Freeze); etofenprox; tetramethrin and PBO (Wasp X Wasp & Hornet Spray);</p>	<p>Spray nests and wall. Treat paper wasps in the late evening when all insects have settled for the night. Use red cellophane on light at night.</p>

*Labels on insecticides should state “material may be used in the household” and should be registered by the EPA for that purpose.

Household Insects – Homeowners

Insect	Threats	Insecticides and Treatment*	Remarks
	sting only when handled.	prallethrin and lambda cyhalothrin (Spectracide Carpenter Bee and Yellow Jacket Foam) Residual sprays: lambda-cyhalothrin (LambdaStar Ultracap 9.7); cypermethrin (Cyper WVSP); 2.0% malathion (outdoor only)	

Termites

Subterranean Termites: Integrated pest management (IPM) of subterranean termites is unique compared to management (IPM) of other pests. Post-construction treatments include liquid soil treatments, wood treatments and baits. Liquid soil treatments are designed to protect the structure using a barrier placed around the perimeter of the structure and at additional termite entry points. These treatments may be repellent or nonrepellent.

Repellent soil treatments are detected by subterranean termites. Subterranean termites are repelled by these treatments. Nonrepellent soil treatments are not detected by subterranean termites. Subterranean termites pass through the nonrepellent soil treatment and are killed. Wood treatments kill subterranean termites when the termites feed on the treatments.

Baits and nonrepellent termiticides are designed to kill termites, including reproductives, in the colony. Baits do not provide a barrier around the structure.

Subterranean termites are hidden (cryptic) and live in colonies (social). In addition, the construction of structures is quite diverse. Thus, integrated pest management of subterranean termites is very complex. Pay attention to the label to make sure the product is labeled for termites and for required methods of application.

CAUTION: All insecticides are toxic to some degree; therefore, care should be exercised in their use. The manufacturer's directions on the label in the use of the material must be followed explicitly.

Repellent Soil Termiticide	% to be Used	Remarks
Bifenthrin: Baseline, Bifen, Bifenthrin, Biflex, MasterLine, Maxxthor, Menace, Talstar, ValueLine Bifenthrin, Up-star Wisdom	0.6%, 0.12%	Observe label
Cypermethrin: Cyper, Cypermethrin G-Pro, Cypro, Demon, Demon Max, Prevail, Pro-Build, UP-Cyde	0.25%, 1.00%	Observe label
Esfenvalerate: Tribute	0.059%, 0.125%, 0.25%	Observe label
Permethrin: Cede ii, Dagnet, Permasteer, Permethrin, Prelude, Pmn hg, Tengard, Termethrin	9.590, 2.00%	Observe label

Nonrepellent Soil Termiticide	% to be Used	Remarks
Acetamiprid and Bifenthrin: Transport, F 4, F 4668 50 WSP, F 5688	0.11%	Observe label
Chlorantraniliprole: Altriset	0.059%	Observe label
Chlorfenopyr: Phantom	0.063%, 0.25%	
Imidacloprid: Adonis, AmTide, Centerfire, Dominion, Imi, Lada, Lpi, Masterline I Maxx Pro, Premise, Prothor	0.05%, 0.10%	Observe label.
Fipronil: F-2010, Taurus, Termidor, Termidor HE, Termini	0.06%, 0.125%	Observe label
Imidacloprid and fipronil: Fuse	0.067%, 0.13%	Observe label.

Borate Wood Treatment Termiticide (Spray on)	% to be Used	Remarks
Disodium octaborate tetrahydrate: Board defense, Bora-care, BOR-RAM, Borathor Max PT, Cellu-treat, EZ Bor, Mguard, Shell-guard	23%	Observe label

*Labels on insecticides should state "material may be used in the household" and should be registered by the EPA for that purpose.

Household Insects – Homeowners

CAUTION: All insecticides are toxic to some degree; therefore, care should be exercised in their use. The manufacturer's directions on the label in the use of the material must be followed explicitly.

Insect	Threats	Insecticides and Treatment*	Remarks
Baits			
Advance (diflubenzuron) Amdro (hexaflumuron) Impasse (lufenuron) Isophthor (diflubenzuron) Labyrinth (diflubenzuron) Lufenuron (lufenuron) Recruit II (hexaflumuron) Recruit III (noviflumuron) Recruit IV (noviflumuron) Recruit IV AG (noviflumuron) Shatter (hexaflumuron) Spectrum (hexaflumuron) T-Max (noviflumuron) T-Max II (diflubenzuron) Trelona (novaluron) Zyrox(lufenuron)			
Drywood Termites			
Drywood termites do not have contact with the soil. Integrated pest management of drywood termites is different from integrated pest management of subterranean termites. Prevention is a good method of reducing injury from drywood termites. Prevention includes sealing cracks and joints, screening (20 mesh) vents and other openings, using pressure-treated wood and spraying untreated wood with a borate. Colonies of drywood termites are small in number compared to subterranean termites. Thus, infested wood may be removed and replaced to manage drywood termites. All infested pieces of wood must be removed. Chemical treatments include injection of nonrepellent termiticide foams, liquids or dusts. Nonchemical methods include the use of microwaves, cold, heat and electrocution. Termiticides for drywood termites: imidacloprid: Adonis, AmTide, Centerfire, Dominion, Imi, Lpi, Masterline I Maxx Pro, Premise. fipronil: F-2010, Taurus, Termidor dry, Termini. imidacloprid and fipronil: Fuse. disodium octaborate tetrahydrate: Board defense, Bora-care, BOR-RAM, Borathor Max PT, Cellu-treat, Mguard			

Pesticide Safety

READ THE LABEL — Do not exceed the amounts recommended. Do not contaminate food or feed. Avoid hazards to pets, fish and wildlife.

Four Keys to Pesticide Safety:

- 1. Read the label on each pesticide container before each use.** Follow instructions; heed all cautions and warnings. Why read the label each time? Because the chemical nature of pesticides and their uses vary greatly. You should refresh your mind each time on the material's specific uses. Be sure the product is registered for use in or around the home.
- 2. Store pesticides in their original, labeled containers.** Keep them out of the reach of children and irresponsible people. They cannot be properly identified unless they are in original containers. Lock pesticides in a shed or closet away from food and other household items.
- 3. Apply pesticides only as directed.** Apply them only to the areas specified, in amounts specified and at times specified in label instructions or by your agricultural authorities.
- 4. Dispose of empty containers safely.** It is almost impossible to remove all material from a container. Empty containers with small amounts of pesticides that could harm children or animals and dispose out of reach. Call the Louisiana Department of Agriculture and Forestry with questions about proper disposal of pesticides.

*Labels on insecticides should state "material may be used in the household" and should be registered by the EPA for that purpose.