

Household Insects

CAUTION:

All insecticides are toxic to some degree; therefore, care should be exercised in their use. The manufacturer's directions on the label regarding 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 a severe reaction in some people.	<p>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)</p> <p>Crack and crevices prallethrin, esfenvalerate, pyrethrins, pyrethrum, permethrin, tetra-methrin, phenothrin, beta-cyfluthrin, cyfluthrin</p> <p>Indoor space prallethrin, esfenvalerate, pyrethrins, pyrethrum, permethrin, tetramethrin, phenothrin, cyfluthrin, bifenthrin</p> <p>Outdoor barrier prallethrin, esfenvalerate, permethrin, beta-cyfluthrin, cyfluthrin, bifenthrin, malathion, carbaryl</p> <p>Outdoor broadcast hydramethylnon, pyriproxyfen, beta-cyfluthrin, esfenvalerate, bifenthrin, cyfluthrin, malathion, carbaryl</p>	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 the yard. Follow label.
Ants (carpenter ants)	Damage wooden structures, making smooth, round holes in wood for nesting purposes.	<p>Baits fipronil (Maxforce Carpenter Ant Bait); abamectin (Advance Granular Ant Bait)</p> <p>Crack and crevice deltamethrin (D-Fense Dust); dinotefuran (Alpine PT Aerosol; Alpine Ant and Termite Foam)</p> <p>Sprays fipronil (Taurus SC); fipronil and imidacloprid (FUSE Termiticide & Insecticide)</p>	<ul style="list-style-type: none"> • Spraying infested areas in mid-spring 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.

Insect	Threats	Insecticides and Treatment*	Remarks
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.	<p>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); 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>	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.
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% concentrations).

Insect	Threats	Insecticides and Treatment*	Remarks
Ants (crazy ants)	Damages electrical and computer equipment. A 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.	Baits hydramethylnon (Maxforce Complete Granular Bait); abamectin (Advance Carpenter Ant Bait)	Most ant baits are not effective for these ants. Baits alone are inadequate to reduce the 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.
		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)	<ul style="list-style-type: none"> 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 the management of tawny crazy ants. The following parishes are included in the exemption: Acadia, Ascension, Assumption, Beauregard, Calcasieu, East Baton Rouge, Iberia, Iberville, Jefferson, Lafayette, Lafourche, Livingston, Morehouse, Orleans, Rapides, Sabine, St. Bernard, St. Charles, St. John, St. Landry, St. Martin, St. Mary, St. Tammany, Tangipahoa, Terrebonne, Vermilion, Vernon, Washington, and West Baton Rouge, and to include additional parishes where positive identification has been made (by LSU AgCenter entomologists). When dead ants accumulate, carefully remove them with a leaf blower outdoors or vacuum indoors. Do not disturb or remove the insecticide from the treated surfaces. Do not vigorously wipe or scrape clean treated surfaces.

Insect	Threats	Insecticides and Treatment*	Remarks
Bed bugs	Feed at night by sucking the 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>	<ul style="list-style-type: none"> 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. Spray lightly on all cracks and baseboards, crevices of floors, behind loose wallpaper, and other hiding places. 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. Sulfuryl fluoride products are restricted-use pesticides that can only be legally purchased and used by licensed professionals.
Booklice (Psocids)	Damages book bindings, clothing, and articles containing starch or glue. Damage is usually insignificant.	<ul style="list-style-type: none"> Reduce moisture. Use commercially prepared insect spray containing 0.25% pyrethrins. Other active ingredients: lambda-cyhalothrin, cyfluthrin, acephate 	<ul style="list-style-type: none"> Remove infested items and eliminate excessive moisture. Insecticides are not normally necessary to control booklice. When using insecticides for large and uncontrolled infestations, follow the label carefully to ensure safety.
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>	Dust provides longer residual. Repeated applications may be needed.

Insect	Threats	Insecticides and Treatment*	Remarks
Carpet beetles	Feed on items composed of animal fibers, such as wool, furs, silk, feathers, felt, and leather. Adults are small beetles, and only the larval stage feeds on fabric and causes damage.	<p>Crack and crevice pyrethrins, tetramethrin, etofenprox and PBO (Zenprox Aerosol)</p> <p>Dusts silicon dioxide (CimeXa Insecticide Dust)</p> <p>Insect growth regulators s-hydroprone (Gentrol IGR Concentrate)</p>	<ul style="list-style-type: none"> • Routine vacuum cleaning effectively removes carpet beetles as well as hair and lint. Clothing to be stored should be kept in tightly closed containers. • Infested rugs, carpets, and furniture should be cleaned thoroughly before the 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.	<p>Storage naphthalene (mothballs and moth flakes, various products); paradichlorobenzene (Enoz Moth Ice Crystals); dichlorovos (ProZap Insect Guard)</p> <p>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</p>	<p>CAUTION: Wet rugs must be protected from metal stains. Very important to find and clean up the source of infestation. Dry clean garments in spring prior to storing them in a box. Place moth balls or moth crystals in the box before closing. May freeze infested items.</p> <ul style="list-style-type: none"> • Also see remarks above for carpet beetles.
Cockroaches	Feed on most foods, but also will damage book bindings, stamps, papers and starched clothing.	<p>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-hydroprone (Raid Double Control Small Roach Baits Plus Egg Stoppers); hydramethylnon (Combat Roach Killing Bait, Ortho Home Defense Roach Bait)</p> <p>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</p> <p>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)</p> <p>Outdoor lambda-cyhalothrin (LambdaStar UltraCap 9.7) cypermethrin (Demon WP); prallethrin; esfenvalerate; cyfluthrin; beta-cyfluthrin; bifenthrin; malathion</p> <p>Insect growth regulator abamectin, hydroprone, pyriproxyfen</p>	To treat cockroaches indoors, use baits where cockroaches are found (mainly in 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.

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>Outdoor bifenthrin (Bifen IT); lambda-cyhalothrin (Cyzmic CS, LambdaStar Ultracap 9.7); cypermethrin (Cyper WSP) 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 the outside area at least 15 feet from the base of the house. Particular attention should be paid to the ground area adjacent to the foundations of the 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 the 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 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) Insect growth regulator hydroprene, pyriproxyfen, methoprene, novaluron Traps (for detection only) Victor: The Ultimate Flea Trap</p>	<ul style="list-style-type: none"> Fleas are very difficult to control. It usually takes 2 applications applied 10 days to 2 weeks apart to control them. 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 on the carpet. Untreated pets will continue to be bothered by fleas. They may also transport fleas in from outdoors, eventually overcoming the effects 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.
Houseflies	Flies are a nuisance around the home and contaminate food. Larvae breed in decaying organic matter, garbage and manure.	pyrethrins and PBO (Country Vet CV-80D Aerosol, CB 80 Insecticide Aerosol); lambda-cyhalothrin (LambdaStar UltraCap 9.7); cypermethin (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	Spray screens, door facings, window jambs, porches, posts, and other places where flies alight with 1% Dipterex and where pets, poultry, or livestock cannot reach them. Inside homes use prepared spray containing pyrethrins. Keep premises clean. Eliminate fly-breeding sites.

Insect	Threats	Insecticides and Treatment*	Remarks
Mosquitoes	Attack humans, pets, and livestock. They are blood feeders and may transmit disease.	<p>Long-lasting repellants DEET; picaridin; permethrin</p> <p>Shorter-lasting repellants oil of lemon eucalyptus; IR3535 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>	<ul style="list-style-type: none"> Remove old cans, tires, and other containers that might hold rainwater. Drain pools of stagnant water. Improve drainage in the yard and around the home. 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. Commercially prepared repellents can be used to avoid mosquito attacks.
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 them 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>	<ul style="list-style-type: none"> Borate wood treatment products must be used under dry conditions. Apply as directed by the label. Surface applications of borates will penetrate wood up to a 1/4 inch. Sulfuryl fluoride products are restricted-use pesticides that can only be legally purchased and used by licensed professionals.
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>	<ul style="list-style-type: none"> Eliminate harborage sites around the house, including trash, boards, stones, and firewood. Spray around doorways, windows, and other places where scorpions might enter. Dusts should be used to treat cracks and crevices. Follow label directions.

Insect	Threats	Insecticides and Treatment*	Remarks
Silverfish	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>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>	<ul style="list-style-type: none"> • Eliminate sources of excessive moisture. • Spray back wall, shelves, baseboards of cupboards, floors, and shelves of clothes closets, around water pipes, lavatories, sinks, and on the sides of bookshelves. Spray around door and window frames of papered rooms with a commercially prepared insect spray. • Follow label.
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>	<ul style="list-style-type: none"> • 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.
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>	Follow label.

Insect	Threats	Insecticides and Treatment*	Remarks
Wasps (mud daubers, paper wasps)	Paper wasps are vicious stingers when disturbed. Mud daubers are usually not aggressive and sting only when handled.	Aerosol sprays prallethrin (PT Wasp & Hornet Freeze); etofenprox; tetramethrin and PBO (Wasp X Wasp & Hornet Spray); prallethrin and lambda cyhalothrin (Spectracide Carpenter Bee and Yellow Jacket Foam) Residual sprays lambda-cyhalothrin (LambdaStar Ultracap 9.7); cypermethrin (Cyper WSP); 2.0% malathion (outdoor only)	Spray nests and walls. Treat paper wasps in the late evening when all insects have settled for the night. Use red cellophane on a light at night.

Termites

Subterranean Termites: Integrated pest management (IPM) of subterranean termites is unique compared to management 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 are slow-acting and can eliminate the termite colony.

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.

Many termiticides are restricted use and need to be applied by a licensed pesticide applicator.

Repellent Soil Termiticide	% to be Used
Bifenthrin: Baseline, Bifen XTS, Bifen IT, MasterLine Bifenthrin 7.9, MasterLine B MaxxPro, Maxxthor SC, Talstar P, Totality, Wisdom TC Flowable	0.6%-0.12%
Cypermethrin: Cyper TC, Demon MAX, UP-Cyde Pro 2.0 EC	0.25%-1.00%
Permethrin: Dragnet SFR, Permethrin SFR, Prelude, Tengard SFR	0.50%-2.00%

Follow label.

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

Nonrepellent Soil Termiticide	% to be Used
Acetamiprid and Bifenthrin: Transport, Transport Mikron Insecticide	0.054%-0.11%
Chlorantraniliprole: Altriset	0.05%-0.10%
Chlorfenopyr: Phantom	0.063%-0.25%
Imidacloprid: Centerfire 75 WSP, Dominion PT, Dominion 2L, MasterLine I MaxxDual, MasterLine 1 MaxxPro WSP, MasterLine 1 MaxxPro 2F, Premise, Prothor WSP	0.05%-0.10%
Fipronil: Navigator SC, Taurus SC, Termidor HE, Termidor HP, Termidor SC, Termidor 80WG	0.06%-0.125%

Nonrepellent Soil Termiticide	% to be Used
Imidacloprid and fipronil: Fuse	0.067%-0.13%
Indoxacarb: Advion WDG	0.05%-0.10%

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

Borate Wood Treatment Termiticide (Spray on)	% to be Used
Disodium octaborate tetrahydrate: Bora-care, Borathor	23%, 5.0%-15.0%

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

Baits

- Advance (diflubenzuron)
- Isopthor (diflubenzuron)
- Labyrinth (diflubenzuron)
- Lufenuron (lufenuron)
- Recruit AG FlexPack (noviflumuron)
- Recruit IV (noviflumuron)
- Recruit IV AG (noviflumuron)
- Recruit HD (noviflumuron)
- Shatter (hexaflumuron)
- Trelona (novaluron)

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:** Centerfire, Dominion, Masterline I Maxx Pro, Premise. **fipronil:** Taurus, Termidor dry. **imidacloprid and fipronil:** Fuse. **disodium octaborate tetrahydrate:** Bora-care, BOR-RAM, Borathor

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

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 caution 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 their 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 of them out of reach. Call the Louisiana Department of Agriculture and Forestry with questions about the proper disposal of pesticides.

