

LOUISIANA RECOMMENDATIONS FOR CONTROL OF HOUSEHOLD INSECTS BY 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 should be followed explicitly.

Insect	Damage	*Insecticides and Treatment	Remarks
Ants (several species)	Feed on foods in kitchen and pantry and may damage clothing; may also sting causing severe reaction to some people.	<p>Bait stations: Hydramethylnon, abemectin, Sodium Tetraborate Deca-hydrate</p> <p>Crack and crevice: Prallethrin, Esfenvalerate, Pyrethrins, Pyrethrum, permethrin, Tetramethrin, Phenothrin, Beta-Cyfluthrin, Cyfluthrin</p> <p>Indoor space: Prallethrin, Esfenvalerate, Pyrethrins, pyrethrum, permethrin, Tetramethrin, Phenothrin, Cyfluthrin, biphenthrin</p> <p>Outdoor barrier: Prallethrin, Esfenvalerate, permethrin, Beta-Cyfluthrin, Cyfluthrin, biphenthrin, malathion, carbaryl.</p> <p>Outdoor broadcast: hydramethylnon, pyriproxyfen, Beta-Cyfluthrin, Esfenvalerate, biphenthrin, cyfluthrin, malathion, carbaryl.</p>	<p>Remove food and clean up kitchen and pantry. Treat area where ants occur or congregate. Care should be taken not to contaminate foodstuffs with sprays. For tiny ants that nest in walls find where they enter room and and treat the opening and runway leading from it. Also treat nests in yard. Follow label.</p> <p>Follow label.</p> <p>Follow label.</p> <p>Follow label.</p> <p>Follow label.</p>
Fire ants	Treat around outside of structure.	<p>Baits: indoxacarb, hydramethylnon, spinosad, fipronil, abamectin, fenoxycarb, s-methoprene, pyriproxyfen, sulfuramid.</p> <p>Contact: 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>	<p>Follow label.</p>

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Pharoah Ants		Baits: Hydramethylnon, sulfuramid, boric acid;	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 <1% concentrations), fipronil
Bedbugs	Feed at night by sucking blood of sleeping persons.	Bifenthrin, lambda-cyhalothrin, and beta-cyfluthrin. 2.0% Malathion 0.15% Pyrethrins	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 in all cracks and base-boards, crevices of floors, behind loose wallpaper, and other hiding places. Spray bed frames and springs lightly with 2% Malathion. Do not use furniture until thoroughly dry.
Book lice	Damages book bindings, clothing, and articles containing starch or glue.	Reduce moisture. Pyrethrin, Lambda-Cyhalothrin, cyfluthrin, acephate.	Use commercially prepared insect spray containing 0.25% pyrethrins
Carpenter ants	Smooth, round holes in wood for nesting purposes	Fipronil (maxforce), abamectin (advance) baits.	Spraying infested areas in mid-spring Will usually reduce populations for the season. Carpenter ants may move Into houses from trees located in close proximity to the house.
Carpenter bees		Pyrethroids (bifenthrin, cyfluthrin, deltamethrin, permethrin, etc.)	Dusts provide longer residual. Repeated applications may be needed.

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

**LOUISIANA RECOMMENDATIONS FOR
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Insect	Damage	*Insecticides and Treatment	Remarks
Clothes moths	Furs, rugs, clothing, over-stuffed 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. stuffed furniture, and	Storage; mothballs naphthelene, paradichlorobenzene. Crack and crevice and indoor treatment cyfluthrin, deltamethrin, 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.
Cockroaches	Cockroaches are general feeders, but in addition to most foods will damage book bindings, stamps, papers and starched clothing.	Baits Fipronil, hydramethylnon, crack and crevice Prallethrin, Pyrethrins, Tetramethrin, Phenothrin, Beta-Cyfluthrin, Cyfluthrin, biphenthrin Indoor space: Pyrethrins Indoor surface: Prallethrin, Pyrethrins, Cyfluthrin. Outdoor barrier: Prallethrin, Esfenvalerate, Beta-Cyfluthrin, Cyfluthrin, biphenthrin, malathion. Outdoor broadcast: Esfenvalerate, Beta-Cyfluthrin, Cyfluthrin, biphenthrin, mslsyhion. Insect growth regulator: abamectin, Hydroprene.	
Fleas		Indoor surface and crack and crevice: Pyrethrins, Beta-Cyfluthrin, biphenthrin, deltamethrin, permethrin, tralomethrin, methroprene. Indoor space: hydroprene, Pyrethrin.	
Ticks	Ticks feed on animals and humans.	Repellants: Deet, permethrin Indoor surface and crack and crevice: Pyrethrins, Beta-Cyfluthrin, cyfluthrin, biphenthrin, deltamethrin, permethrin, tralomethrin, Cypermethrin, tetramethrin, phenothrin, tau-fluvalinate.	

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Insect	Damage	*Insecticides and Treatment	Remarks
Fleas and Ticks	Fleas and ticks feed on humans and pets. They frequently infest homes. Infestations usually develop from pets.	Outdoor Pyrethrins, Beta-Cyfluthrin, cyfluthrin, biphenthrin, deltamethrin, permethrin, tralomethrin, Esfenvalerate.	Fleas are very difficult to control. It usually takes two applications applied ten days to two weeks apart.
Houseflies	Flies are a nuisance around the home and contaminate food. Larvae breed in decaying organic matter, garbage, and manure.	Pyrethrins, Beta-Cyfluthrin, cyfluthrin, deltamethrin, permethrin, tetramethrin, Esfenvalerate, prallethrin, Cypermethrin.	Spray screens, door facings, window jams, porches, posts, and other places where flies light with or 1% Diptorex and where pets, poultry, or livestock cannot reach them. Inside homes use prepared spray containing Pyrethrins. Keep premises clean.
Mosquitoes	Attack humans, pets, And livestock. They are blood feeders and may transmit disease.	Repellants, long lasting DEET, Picaridin, shorter lasting oil of lemon eucalyptus	Remove old cans, tires, and other Containers that might hold rainwater. Drain pools of stagnant water. Improve drainage in yard and around home.
		Adults (outdoors in resting areas) 5% Malathion 0.1% Cypermethrin (Ford's Viper) Permethrin (see labels) 0.03%-0.06% Deltamethrin	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.
		Adults (indoors) Pyrethrin + PBO or other commercially prepared aerosol products.	Commercially prepared repellents can be used to avoid mosquito attack.
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.	Borate wood treatment product (must be used under dry conditions) Bora-care and Tim-bor; apply as directed by label. Surface applications of borates will penetrate wood up to ¼ inch. Insecticides that will not penetrate wood- Beta-cyfluthrin, Bifenthrin, cyfluthrin, Cypermethrin, deltamethrin, Fenvalerate, imidacloprid, lambda-cyhalothrin.	

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Insect	Damage	*Insecticides and Treatment	Remarks
Pantry pests	Small brown beetles and larvae of small moths Infest flour meal, spices dogfood, grits, rice, oatmeal, cookies, candies, nuts, and other cereal grain products.	Indoor surface and crack and crevice Acephate, Pyrethrins, Cyfluthrin, biphenthrin, deltamethrin, permethrin, tralomethrin, Lambda- Cyhalothrin, Esfenvalerate, prallethrin, boric acid, hydroprene.	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 with a 2% Malathion spray that will kill any remaining insects. Let shelves dry and cover with paper before replacing items.
Silver fish	Feed on cotton, rayon, nylon, silk, book bindings, wallpaper, and materials containing starch; Frequently injure books.	Indoor space hydroprene, pyrethrin, prallethrin, permethrin. Crack and crevice or Indoor space Pyrethrins, cyfluthrin, Esfenvalerate, Prallethrin, beta- cyfluthrin Outdoor cyfluthrin – Esfenvalerate, prallethrin, beta- cyfluthrin, bifenthrin, malathion, carbaryl.	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 rooms with a commercially prepared insect spray.
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).	Pyrethrins, cyfluthrin, Biphenthrin, deltamethrin, permethrin, tralomethrin, Lambda- Cyhalothrin, Esfenvalerate, prallethrin, boric acid, beta-cyfluthrin, Cypermethrin, imiprothrin, tetramethrin, phenothrin, carbaryl (outdoor) malathion (outdoor).	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.

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Insect	Damage	* Insecticides and Treatment	Remarks
Earwigs, Millipedes	Occasionally invade the home especially during wet, rainy weather. Contrary to common belief, these arthropods are harmless.	Acephate, Pyrethrin, cyfluthrin, bifenthrin, deltamethrin, permethrin, tralomethrin, Lambda-Cyhalothrin, Prallethrin, boric acid, beta-cyfluthrin, Cypermethrin, Disodium octaborate tetrahydrate, tau-fluvalinate, carbaryl (outdoor), malathion(outdoor),	Treat outside area at least 15 ft 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.
Mud daubers Paper wasps	Paper wasps are vicious stingers when disturbed.	2.0% Malathion 0.15% Pyrethrins Orthene TTO/97S 1-2 ozs/gal water	Spray nests and wall. Treat paper wasps and carpenter bees in the late evening when all insects have settled for the night. Treat in late evening or at sunrise. Use red cellophane on light at night.
Scorpions		Pyrethrins, cyfluthrin, biphenthrin, deltamethrin, permethrin, Lambda-Cyhalothrin, Esfenvalerate, prallethrin, boric acid, beta-cyfluthrin, carbaryl (outdoor)	Spray around doorways, windows and Other places where scorpions might enter. (Follow label directions).

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INSECT

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 non repellent. Repellent soil treatments are detected by subterranean termites. Subterranean termites are repelled by these treatments and are not killed if they do not receive a lethal dose of the insecticide. Non repellent 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 designed to kill termites including reproductives in the colony and are not designed to provide a barrier around the structure. The baits listed below are for use by individuals licensed by the state to apply termiticides. 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 particular attention to the label to make sure the product is labeled for termites and for proper methods of application.

Repellant Soil Termiticide	% to be Used	Remarks
Bifenthrin: Baseline, Bifen, Bifenthrin, biflex, MasterLine, Maxxthor, Talstar, ValueLine, Bifenthrin, Wisdom	0.6%, 0.12%	Observe label
Cypermethrin: Cyper, Cypermethrin G-Pro, Demon, Demon Max, Prevail, Pro-Build	0.25%, 1.00%	Observe label
Permethrin: Dragnet, Permaster, Permethrin, Prelude, Tengard, Torpedo	9.5%, 2.00%	Observe label
Non Repellant Soil Termiticide	% to be Used	Remarks
Acetamiprid & Bifenthrin: Transport	0.11%	Observe label
Chlorfenapyr: Phantom	0.063%, 0.25%	Observe label
Imidacloprid: AggresZor, Centerfire, Dominion, Imida E-Pro, Masterline 1 Maxx Pro, Premise, Prothor	0.05%, 0.10%	Observe label.
Fipronil: Termidor	0.06%, 0.125%	Observe label.
Wood Treatment Termiticide		
Disodium Octaborate Tetrahydrate: Bora-care, BOR-RAM	23%	Observe label

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Baits. The baits listed are for use by individuals licensed by the state to apply termiticides	FirstLine (Sulflurimid) Isophor Termite bait (Diflubenzuron) Labyrinth (Diflubenzuron) Recruit II (Hexaflumuron) Recruit III (Noviflumuron) Shatter (Hexaflumuron) T-Max (Noviflumuron)
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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. Consult a pest management professional for management of drywood termites.

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 ARE AS FOLLOWS:**

- 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.