



Cockroaches and Their Management¹

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Cockroaches are pests throughout the United States. They are annoying and, when abundant, they are also destructive. Cockroaches, also known as waterbugs, croton bugs, or palmetto bugs, destroy food and damage fabrics, book bindings, and other materials. When cockroaches run over food they leave filth and may spread disease. They secrete an oily liquid that has an offensive and sickening odor that may ruin food. This odor may also be imparted to dishes that are apparently clean. Excrement in the form of pellets or an ink-like liquid also contributes to this nauseating odor. Some people are allergic to cockroaches and become ill.

Kinds of Cockroaches

The kinds of cockroaches most commonly found in and around Florida homes are Florida Woods Roach, American (Figure 1), smokybrown (Figure 2), brown (Figure 3), Australian (Figure 4) and German (Figure 5). The smallest cockroaches, the German and the brownbanded (Figure 6), are close to the same size and the adults are seldom more than 5/8" long. The larger cockroaches, the American, Australian, brown, and the smokybrown, are 1 1/4" - 2" long and are often called palmetto bugs. Though they are generally found outdoors, they can become

an indoor problem when they migrate or are carried indoors. The largest cockroach, the Florida woods roach, will also enter dwellings from the outside or from beneath the house. Outdoor cockroaches do not survive well indoors and many times people overreact to the presence of these cockroaches. Often, removal of these outdoor cockroaches from the house is all that is needed for control.

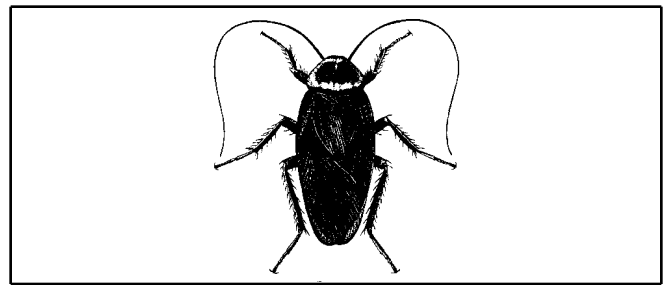


Figure 1. American cockroach (actual size, 1 1/2").

Development of the Cockroach

The cockroach has three life stages: the egg, nymph, and adult. Cockroach eggs are deposited in groups in a leathery case or capsule called an ootheca. This capsule is usually dropped or glued to some surface by the female as soon as it is formed; however, the female German cockroach carries the capsule protruding from her body until the eggs are

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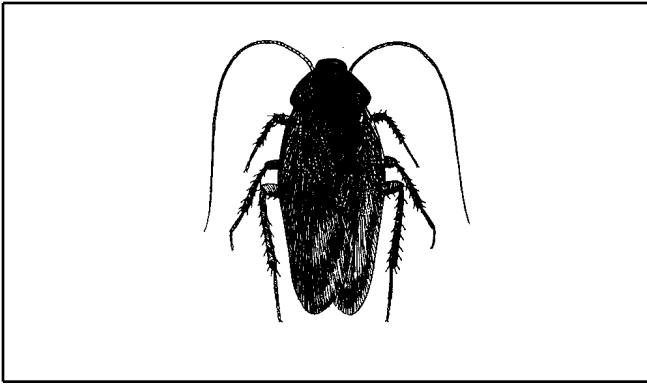


Figure 2. Smokybrown cockroach (actual size, 1 3/4").

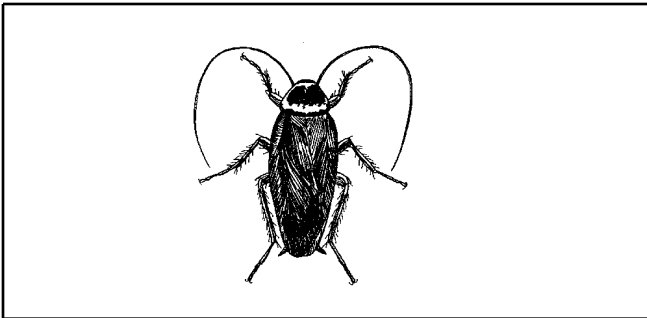


Figure 3. Brown cockroach (actual size, 1 1/2").

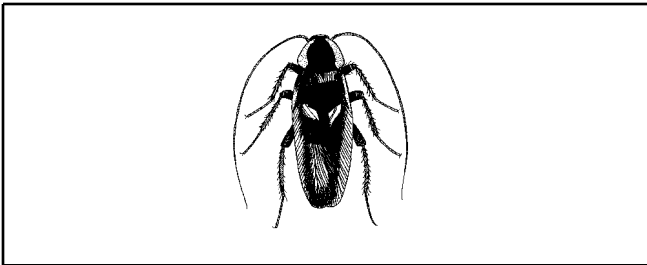


Figure 4. Australian cockroach (actual size 1 1/2").

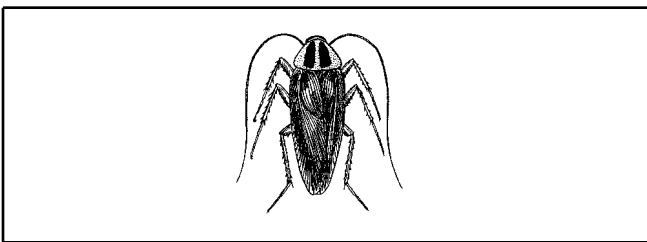


Figure 5. German cockroach (actual size 5/8").

ready to hatch. There may be from 30 to 48 eggs in the capsule of the German cockroach, but capsules of other cockroaches may have only 10-28 eggs.

The newly hatched nymphs have no wings and shed their skins (molt) several times before becoming winged adults. German and brownbanded cockroaches may have several generations per year, but the outdoor species may require a year to develop from egg to adult.

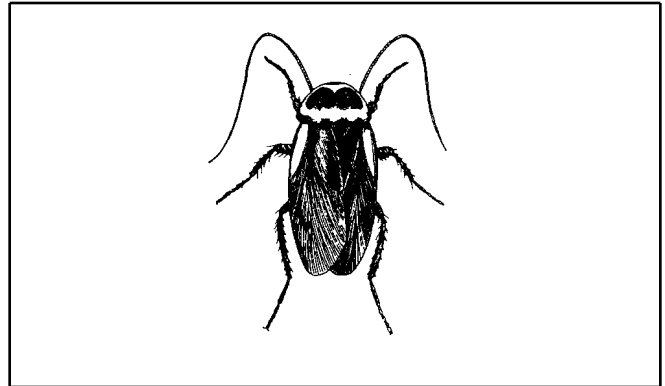


Figure 6. Brownbanded cockroach (actual size, 3/4").

Where to Look for Cockroaches

Cockroaches hide in dark, sheltered places during the day and come out to feed at night. They may be found around the kitchen sink or drain board, in cracks around or underneath cupboards and cabinets or inside them (especially in the upper corners), behind drawers, around pipes or conduits (where they pass along the wall or go through it), behind windows or door frames, behind loose baseboards or molding strips, on the underside of tables and chairs, in the bathroom, and in radio and TV cabinets.

The German cockroach is usually found in the kitchen and bathroom, although it may be found all over the house. The other kinds of cockroaches prefer damp, warm places and usually develop in garages, sewers, attics, storerooms and similar locations. They then enter the home from outside breeding sites.

Preventive Control

Prevent Infestations

Inspect all baskets, bags or boxes of food, firewood, and laundry brought into the house. Destroy any cockroaches or egg capsules. Make it difficult for cockroaches to enter by filling all openings around pipes passing through floors or walls with patching plaster, putty, or plastic wood, particularly if cockroaches are coming in from adjoining apartments or from outside. Keep door and window screens in good repair and make sure that there are no cracks between them and the frames. Kill or remove any outdoor species of cockroaches found indoors. Often it is not necessary to spray

insecticide to obtain control since outdoor cockroaches don't reproduce rapidly or survive well indoors.

Sanitation

Cleaning will aid considerably in cockroach control. Take away their food supply. Store food in tight containers and avoid spilling flour, cereals, and other dry materials in cupboards or on pantry shelves. Do not leave remnants of food on tables or in kitchen sinks overnight. Sweep up any crumbs or bits of food from the floors of kitchen, pantry, and dining area. Put table scraps, vegetable parings, and other waste materials in tightly covered garbage cans.

Chemical Control

Pesticides can be purchased in various formulations to control cockroaches. The most frequently used are:

- ready-to-use aerosols or sprays
- sprays to mix with water
- baits
- dusts

Depending on the situation, each formulation type may have advantages or disadvantages.

Ready-to-Use Aerosols or Sprays

Residual Sprays

Ready-to-use sprays are available at local stores as aerosol bombs, bottles with push button sprayers or in containers to be poured into a hand sprayer. These are sold under various trade names with the active ingredient given on the container label.

Ready-to-use products are designed to be sprayed on surfaces to provide residual control of cockroaches. If applied properly, up to two or three weeks of residual control may be achieved.

Total Release Aerosols

Total release aerosols are useful in reducing large populations of cockroaches but do not give residual action. For best results, kitchen drawers and

cabinet doors must be open during treatment. Only cockroaches contacted by the spray are killed.

Sprays to Mix with Water

Insecticides may be purchased as either emulsifiable concentrates or wettable powders and mixed with water for spraying. Equipment needed for application is also available at stores selling pesticides.

Water emulsions properly applied to surfaces should continue to kill cockroaches for two to three weeks after spraying. Barrier applications of these sprays around doorways and windows can prevent entry of outdoor species of cockroaches.

Bait

Baits can be highly effective for German cockroach control. The bait is contained in a childproof bait device or is applied as a gel from a syringe. Twelve bait devices should be placed in the kitchen, bathroom and other cockroach-infested areas to obtain satisfactory results. Gel should be injected into cracks and crevices where cockroaches hide. The products have no odor and can be applied without removing food, pots, pans or dishes from cupboards. IFAS testing has shown these products to be effective for three to twelve months depending on the environment of the home or apartment.

Dusts

The most commonly used dust for cockroach control is boric acid, which is usually applied as 99% active ingredient. It is effective if wall voids and most cockroach harborages are thoroughly treated. Boric acid dust is most effective in dry areas where the dust can be transferred from the treated surface to the cockroach.

Cockroach Control Outdoors

To reduce the number of cockroaches going indoors, it is suggested that baits be applied under the house, porches, etc., and to mulches in and around flower beds, shrubs, etc. Many baits for the control of mole crickets are also labeled for cockroach control. If the house is on a concrete slab, a barrier can be made by applying the bait in a band 1 or 2'

wide on the ground around the house. Other outside places where cockroaches are commonly found should also be treated. Follow application directions on the manufacturer's label.

Application of Insecticides

Be sure you understand where to look for cockroaches before applying insecticides. Sprays are generally more suitable than dusts and do not leave visible residues. Liquids may be applied with a hand sprayer, push button sprayer, aerosol bomb, or a more expensive compressed air sprayer.

Apply sprays to cracks and crevices, along baseboards, along the back of stove and refrigerator, around pipes, under sinks, around toilet stools, and on exposed surfaces where roaches crawl. Apply sprays on the underside of all objects and any other places where cockroaches may crawl or hide. Apply sprays to the exterior of the house, around windows and doors to prevent entry. Hold sprayer about six inches from the surface being treated and apply a fairly coarse spray so that it does not form droplets and puddles on the floor.

A paint brush is excellent for applying liquid insecticides to baseboards, the insides of cabinets, the bottom and outside of drawers and similar locations. Remove drawers before thoroughly treating the inside of cabinets, desks, and similar furniture. Allow time for cabinet shelves and drawers to dry and then replace shelf paper before replacing contents of shelves and drawers.

A small duster may be purchased for applying dusts to the edges of baseboards, in corners, in and around cupboards and similar hard-to-reach places.

Generally speaking, additional treatments will need to be made in one to two months. Frequency of treatments will depend on sanitation practices, thoroughness of the insecticide application, and how vulnerable the home is to reinfestation.

Insect Growth Regulators

Insect growth regulators (IGRs) are registered for cockroach control. When cockroach nymphs contact surfaces treated with insect growth regulators, they mature into sterile adults with

twisted wings. The cockroach population then disappears as the older cockroaches die and no young are born. Control is achieved six - seven months after the first treatment.

Insect growth regulator applications can be requested of pest control companies and should be applied in conjunction with other registered insecticides. Over-the-counter formulations of insect growth regulators are now available and are mixed with registered insecticides that provide quick kill.

Pest Control Services

The structural pest control industry offers professional services in the control of cockroaches and other household pests. Florida law requires these businesses to be certified and licensed. They have the equipment and training to do a thorough job; therefore, many people prefer using these services rather than trying to control these pests themselves.

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Acephate Pro PCO (Wettable/soluble powder)		Acephate - 96.0%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Not for use in food processing areas in food handling establishments. Food areas of food handling establishments -- application limited to spot and/or crack and crevice treatment only.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	Do not contact until dry	None	None
Apply to the perimeter of building where pests are active and find entrance.				
Aero-cide Contact Insecticide (Aerosol)		Pyrethrins + d-trans Allethrin + Piperonyl Butoxide + MGK264 - 1.0 + 1.0 + 4.0 + 4.0%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	2 hours	None	None
Use this product with supplied actuator and tubes. Do not use in aircraft cabins. Do not remain in treated area and ventilate the treated area after treatment is completed. Treated room should be ventilated for 2 hours after spraying. Inject into cracks and crevices in all hiding places.				
Food Areas of Food Handling Establishments	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	2 hours	None	None
Use this product with supplied actuator and tubes. Do not use in aircraft cabins. Do not remain in treated area and ventilate the treated area after treatment is completed. Treated room should be ventilated for 2 hours after spraying. Inject into cracks and crevices in all hiding places. Food should be removed or covered during treatment. All food processing equipment and surfaces should be covered or thoroughly cleaned before using.				
Archer (Emulsifiable concentrate)		Pyriproxyfen - 1.3%		
Animal Housing	Cockroaches	None	None	None
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Bakeries, Beverage/Bottling Plants/Breweries, Hospitals, Institutions/Libraries/Museums/Sports Facilities, Mausoleums, Nursing Homes, Day Care Centers, Schools	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Campgrounds/Recreation Areas	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
Avert Cockroach Bait Stations (Bait)		Abamectin B1 - 0.05%		
Structures, Apartments/Houses/Dwellings/Structures/Garages	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Concentrate treatment at insect activity sites and other sites where cockroaches are found. Replace baits about every 3 months or when necessary.				
Avert Cockroach Gel Bait (Formula 2) (Bait)		Abamectin B1 - 0.05%		
Structures, Restaurants/Commercial Kitchens	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Cockroach gel bait is for use in controlling cockroaches indoors and outdoors. Do not treat food preparation surfaces.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
Inject into cracks and crevices around windows and doors, porches, screens, eaves, patios,garages, under stairways and in open crawl spaces and other areas where pests may be nesting or trailing, such as tree holes and cracks in fences.				
Avert Cockroach Gel Bait (Formula 3) (Bait)		Abamectin B1 - 0.05%		
Food Areas of Food Handling Establishments	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
<p>This product is for controlling cockroaches indoors and outdoors. The prefilled plastic reservoir is intended for use with bait injector application devices common to the pest control industry. Concentrate bait placements as individual spots or a bead at insect activity sites. Exposed food/feed should be covered or removed during application. Care should be taken to avoid depositing gel onto exposed surfaces. Not for use in USDA Inspected Meat and Poultry Plants. Application of this product in food/feed areas of food/feed handling establishments other than as a crack and crevice treatment is not permitted.</p>				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
<p>Inject into cracks and crevices around doors and windows, porches, screens, eaves, patios, garages, under stairways and in open crawl spaces and other areas where pests may be nesting or trailing, such as tree holes and cracks in fences.</p>				
Avert Dry Flowable Cockroach Bait (Bait)		Abamectin B1 - 0.050%		
General Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
<p>This product is intended for application with the supplied hand duster to hiding and runway areas and those places where pests are found. Apply insecticide directly into cracks and crevices.</p>				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
<p>Inject into cracks and crevices around window and doors, porches, screens, eaves, patios, garages, understairways and in crawl spaces and other areas where pests hide, such as tree holes and cracks in fences.</p>				
Avert Pressurized Cockroach Bait (Formula 1) (Bait)		Abamectin B1 - 0.01%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
<p>This product is for use only with the supplied actuator and injection tubes. Bait is to be injected only into cracks and crevices or void space where insects may be harboring, living, or breeding. For inaccessible voids, drill small holes and inject bait. Do not use in food/feed areas of food/feed handling establishments. Do not use in aircraft cabins.</p>				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
<p>Inject into cracks and crevices around windows and doors, porches, screens, eaves, patios, garages, under stairways and in crawl spaces and other areas where pests hide, such as tree holes and cracks in fences.</p>				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
CB-38 Extra (Aerosol)		Pyrethrins - 0.30%		
Dairies, Milking Parlors, Milk Rooms	Cockroaches	None	None	None
Close all windows and doors. Direct spray upwards, spraying for 5 seconds for 1,000 cubic feet of space. Do not remain in treated areas. Ventilate after treatment. Remove milk and cover milking utensils before spraying. After spraying, milking utensils must be washed with an effective cleaning compound followed by a potable water rinse.				
Horse Stables	Cockroaches	None	None	None
Close all windows and doors. Spray at the rate of 5 seconds per 1,000 cubic feet of space. Do not remain in treated area. Ventilate after treatment.				
Swine Housing	Cockroaches	None	None	None
Close all doors and windows. Spray at the rate of 5 seconds per 1,000 cubic feet of space. do not remain in treated area. Ventilate after treatment. Repeat application as necessary.				
Beef Housing	Cockroaches	None	None	None
Close all windows and doors. Spray at the rate of 5 seconds per 1,000 cubic feet of space. Do not remain in the treated area. Ventilate after treatment.				
Poultry Housing	Cockroaches	None	None	None
Close all windows and doors. Spray roosts, walls, nests and cages thoroughly. Spray at the rate of 5 seconds per 1,000 cubic feet of space. Do not remain in treated areas. Ventilate after treatment. Treat daily or as necessary.				
General Structures, Apartments/Houses/ Dwellings/Structures/ Garages, Office Buildings	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Beverage/Bottling Plants/Breweries, Food Service Establishments (restaurants) Non-food Areas, Restaurants/Commercial Kitchens	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Spray the insect directly when possible. Spray all probable hiding places such as cracks, crevices, baseboards, sinks, cabinets, shelves, under appliances, and in food storage areas.				
Food Storage Areas (warehouses), Grocery Stores/Supermarkets, Hotels/motels	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Spray the insect directly when possible. Spray all probably hiding places such as cracks, crevices, baseboards, sinks, cabinets, shelves, under appliances, and in food storage areas.				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Grocery Stores/Supermarkets	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Spray the insect directly when possible. Spray all probable hiding places such as cracks, crevices, baseboards, sinks, cabinets, shelves, under appliances, and in food storage areas				
Hospitals, Day Care Centers, Schools	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Open cabinets and doors in area to be treated. Shut off air conditioners, fans and close doors and windows before spraying. Direct spray toward areas suspected of harboring insects. Spray into hiding places such as cracks and crevices, behind sinks, cabinets along baseboards and floors, around drains and plumbing, hitting insects with spray whenever possible. Keep area closed for 15 minutes. Open and ventilate before reoccupying.				
Buses/Automobiles, Railroad Cars/Box Cars/Trains, Trucks/Trailers, Vessels (Boats/Ships)	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Shut off air conditioners, fans and close doors and windows before spraying. Direct spray toward areas suspected of harboring insects. Spray into hiding places such as cracks and crevices, hitting insects with spray whenever possible. Keep area closed for 15 minutes. Open and ventilate before reoccupying.				
Conquer (Emulsifiable concentrate)		Esfenvalerate - 3.48%		
Apartments/Houses/Dwellings/Structures/Garages	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	14 days
Apply as a coarse wet spray to surfaces where these pests are normally found. Pay particular attention to cracks, crevices and similar protected locations in floors and walls. Spray directly on insects when possible. Do not apply this spray to surfaces or utensils that may come into contact with food. Prior to treatment, aquariums and fish bowls should be covered and birds, such as canaries, removed from the area. Do not spray pets.				
Hotels/Motels, Office Buildings, Theaters	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Apply as a coarse wet spray to surfaces where these pests are normally found. Pay particular attention to cracks, crevices and similar protected locations in floors and walls. Spray directly on insects when possible. Do not apply this spray to surfaces or utensils that may come into contact with food. Prior to treatment, aquariums and fish bowls should be covered and birds, such as canaries, removed from the area. Do not spray pets.				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Commercial Warehouses/Industrial Buildings/Storage Buildings	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	3 days
Infested stored products should be removed and destroyed, fumigated or treated with other products approved for this use. Use in mechanical aerosol foggers. Keep area closed for at least 1/2 hour and ventilate thoroughly before re-entry. Do not remain in treated area.				
Hospitals, Schools, Railroad Cars/Box Cars/Trains, Trucks/Trailers	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Apply as a coarse wet spray to surfaces where these pests are normally found. Pay particular attention to cracks, crevices and similar protected locations in floors and walls. Spray directly on insects when possible. Do not apply this spray to surfaces or utensils that may come into contact with food. Prior to treatment, aquariums and fish bowls should be covered and birds, such as canaries, removed from the area. Do not spray pets.				
Building Perimeter (soil 6-10 feet)	Asian Cockroaches	Do not contact until dry	None	7 days
Spray and repeat as needed. Keep children and pets off treated areas for 24 hours or until the grass has completely dried. Treat a 12-18 inch band of soil and other substrate adjacent to buildings and the building foundation to a height of 2 to 3 feet where these pests are active and may find entrance.				
Countdown (Wettable/soluble powder)		Cyfluthrin - 20.0%		
Cattle Barns, Horse Stables, Beef Housing	Cockroaches	None	None	10 days
Apply as general surface and/or a crack and crevice spray. Control will be enhanced when facilities are cleaned and interior treatments are supplemented with perimeter exterior treatments. Do not make applications to animal feedstuffs or water equipment.				
Kennels, Swine Housing, Poultry Housing	Cockroaches	Do not contact until dry	None	10 days
Apply as general surface and/or a crack and crevice spray. Control will be enhanced when facilities are cleaned and interior treatments are supplemented with perimeter exterior treatments. Do not make applications to animal feedstuffs or water equipment.				
Cynoff EC Insecticide (Emulsifiable concentrate)		Cypermethrin - 24.8%		
Structures, Apartments/Houses/Dwellings/Structures/Garages	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
For residual pest control in and on buildings and structures and their immediate surroundings and on modes of transport. Do not use in food/feed areas of food handling establishments. Do not apply this product to soil in crawl spaces. Protect aquariums from spray mist. Do not use this product with oil (except for cluster fly control). Wear impermeable gloves made of neoprene when spraying.				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
Apply to surfaces of buildings, porches, screens, window frames, eaves, patios, lawns, vegetation, refuse dumps, garages and in other areas where pests are found. Wear impermeable gloves made of neoprene when spraying.				
Cynoff WP Insecticide (Wettable/soluble powder)		Cypermethrin - 40.0%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
For residual pest control in and on buildings and structures and their immediate surroundings and on modes of transport. This product is not labeled for use in food areas of food/feed handling establishments. Do not use in electrical equipment because of possible shock hazard. Do not use this product with oil. Protect aquariums from spray mist.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	Do not contact until dry	None	None
Apply as a residual spray to surfaces of buildings, porches, screens, window frames, eaves, patios, lawns, refuse dumps, garages and other areas where pests are found.				
Cytoc Crack and Crevice Pressurized Residual (Aerosol)		Cyfluthrin - 0.10%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Use this product with supplied actuator and injection tubes. Inject product into cracks and crevices and void spaces where insects may be harboring, living, and breeding.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
Inject product into cracks and crevices where insects may enter structure or harbor.				
DeltaDust (Dust)		Deltamethrin - 0.05%		
Animal Housing	Cockroaches	None	None	None
This product can be used for residual pest control in and on buildings.				

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Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
<p>In living areas, make applications in such a manner as to avoid depositions on exposed surfaces or introducing the material into the air. In the home all food processing surfaces and utensils should be covered during treatment or thoroughly washed before use. Exposed food should be covered or removed. This product is intended for applications with hand or power duster, with a paint brush or by other suitable means, to hiding and runway areas and other places where insects are found. Authorized for use in non-food/feed areas of food/feed plants. This product may be used as a void treatment. Be sure to thoroughly treat service ducts, false floors and ceilings, wall voids, attics and crawl spaces.</p>				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
<p>Make residual treatment around windows and doors, porches, screens, eaves, patios, garages, understairways, in crawl spaces and other areas where pests hide.</p>				
Sanitary Sewers/Drain Lines/Outside Surfaces	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
<p>Cockroach infestations in sanitary sewers may be treated with this product.</p>				
DeltaGard G (Granule)		Deltamethrin - 0.1%		
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	Do not contact until dry	None	None
<p>Apply this product uniformly to home lawns, shrubbery, and other ornamental recreational grassy areas. Immediately after application, water the lawn thoroughly with half an inch of water. Retreat as necessary. Do not apply to saturated soil. Do not allow children or pets onto treated areas until granules have been watered into the soil and the grass or soil is dry.</p>				
Demand CS (Microcapsulated suspension)		Lambda-cyhalothrin - 9.7%		
Animal Housing	Cockroaches	Do not contact until dry	None	3 weeks
<p>Do not apply when animals are present. Do not apply to animal feedstuffs, water, or watering equipment. Do not contaminate any animal food, feed, or water in and around livestock, poultry, or pet housing when making applications,</p>				
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	3 weeks
<p>For dilution with water for application using hand-held or power-operated application equipment. Can be applied as a coarse spray for general, spot, or crack and crevice application.</p>				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
General Structures, Hotels/Motels	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	3 weeks
For use as a general surface spray and crack and crevice or spot treatment in, on, or around buildings and structures and their immediate surroundings.				
Meat & Poultry Plants (Non-edible areas)	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	3 weeks
For dilution with water for application using hand-held or power-operated application equipment. Can be applied as a coarse spray for general, spot, or crack and crevice application.				
Food Areas of Food Handling Establishments	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	3 weeks
For dilution with water for application using hand-held or power-operated application equipment. Can be applied as a coarse spray for general, spot, or crack and crevice application. Application of this product in food areas and food serving areas other than as a spot and/or crack and crevice treatment is not permitted.				
Meat Plants	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	3 weeks
For dilution with water for application using hand-held or power-operated application equipment. Can be applied as a coarse spray for general, spot, or crack and crevice application. Authorized for use in meat, poultry, and egg processing facilities as a crack and crevice or spot treatment.				
Poultry Plants	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	3 weeks
For dilution with water for application using hand-held or power-operated application equipment. Can be applied as a coarse spray for general, spot, or crack and crevice application. Authorized for use in meat, poultry, and egg processing facilities as a crack and crevice treatment.				
Shell Egg Grading and Egg Products Grading Facilities	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	3 weeks
For dilution with water for application using hand-held or power-operated application equipment. Can be applied as a coarse spray for general, spot, or crack and crevice application. Authorized for use in meat, poultry, and egg processing facilities as a crack and crevice treatment.				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Building Exteriors	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	3 weeks
Demon EC (Emulsifiable concentrate)		Cypermethrin - 25.3%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Repeat treatment as necessary. Use only in well ventilated areas. Do not use as a space spray. Not labeled for use in food areas. Do not use in food areas or food serving areas of food handling establishments.				
Apartments/Houses/Dwellings/Structures/Garages, Hotels/Motels	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Repeat treatment as necessary. Use only in well ventilated areas. Do not use as a space spray. Not labeled for use in food areas. Do not use in food areas or food serving areas of food handling establishments.				
Industrial Plants/Installations/Factories/Manufacturing Plants, Office Buildings, Storage Bins/Rooms, Theaters	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Repeat treatment as necessary. Use only in well ventilated areas. Do not use as a space spray. Not labeled for use in food areas. Do not use in food areas or food serving areas of food handling establishments.				
Utilities	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Repeat treatment as necessary. Use only in well ventilated areas. Do not use as a space spray. Not labeled for use in food areas. Do not use in food areas or food serving areas of food handling establishments.				
Commercial Warehouses/Industrial Buildings/Storage Buildings	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Do not use in warehouses where raw or cured tobacco is stored. Do not use in warehouses where raw agricultural commodities for food or feed are being stored.				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Food Processing (non-food/feed areas), Bakeries, Buses/Automobiles, Railroad Cars/Box Cars/Trains	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Repeat treatment as necessary. Use only in well ventilated areas. Do not use as a space spray. Not labeled for use in food areas. Do not use in food areas or food serving areas of food handling establishments.				
Beverage/Bottling Plants/Breweries	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Repeat treatment as necessary. Use only in well ventilated areas. Do not use as a space spray. Not labeled for use in food areas. Do not use in food areas or food serving areas of food handling establishments.				
Hospitals, Nursing Homes	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Do not apply in any room being used as living, eating, sleeping, or recovery area by patients, the elderly or infirm when they are in the room.				
Schools	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Do not apply when classrooms are in use.				
Aircraft	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Do not use in aircraft cabins.				
Mobile Homes/Travel Trailers/Recreational Vehicles, Trucks/Trailers	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Repeat treatment as necessary. Use only in well ventilated areas. Do not use as a space spray. Not labeled for use in food areas. Do not use in food areas or food serving areas of food handling establishments.				
Vessels (Boats/Ships)	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Repeat treatment as necessary. Use only in well ventilated areas. Do not use as a space spray. Not labeled for use in food areas. Do not use in food areas or food serving areas of food handling establishments.				
Building Exteriors	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	Do not contact until dry	None	None
Barrier Treatment: Apply to band of soil and vegetation 6-10 feet wide around the foundation of structure. Also treat foundation to a height of 2-3 feet. Retreat as necessary to maintain effectiveness. Apply as a residual treatment to outside surfaces of buildings.				
Demon TC (Emulsifiable concentrate)		Cypermethrin - 25.3%		
Building Exteriors	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
Do not apply more than 1 pound of material per acre per year. Apply to a band of soil and vegetation 6-10 ft wide around and adjacent to the structure. Also, treat foundation to a height of 2-3 feet.				
Dumps/Landfills/Garbage Areas	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
Do not apply more than 1 pound of material per acre per year.				
Demon WP (Wettable/soluble powder)		Cypermethrin - 40.0%		
General Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not use as a space spray. Use only in well-ventilated areas.				
Commercial Warehouses/Industrial Buildings/Storage Buildings	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Food Processing (non-food/feed areas), Beverage/Bottling Plants/Breweries	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not use as a space spray. Use only in well-ventilated areas. Not labeled for use in food areas of food handling establishments. Authorized by USDA for use in federally inspected meat, poultry, and egg processing and servicing establishments.				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Food Storage Areas (warehouses)	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not apply to warehouses while raw agricultural commodities for food or feed are being stored. Do not use as a space spray. Use only in well-ventilated areas. Not labeled for use in food areas of food handling establishments. Authorized by USDA for use in federally inspected meat, poultry, and egg processing and servicing establishments.				
Tobacco Processing	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not use in warehouses where raw or cured tobacco is stored.				
Hospitals	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not apply in any rooms when patients, the elderly or the infirm are actively using the room for sleeping. Do not apply to institutions when occupants are present in the immediate area.				
Nursing Homes	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not apply in any rooms when patients, the elderly, or the infirm are actively using the room for sleeping, convalescing, eating, or other similar activities.				
Schools	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not apply to classrooms when in use.				
Vehicles/Transportation, Buses/Automobiles	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not use as a space spray. Use only in well-ventilated areas.				
Aircraft	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not apply to aircraft cabins.				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Building Exteriors	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	Do not contact until dry	None	None
Apply as a residual spray to surfaces of buildings. Barrier treatment: Apply to a band of soil and vegetation 6-10 feet around and adjacent to the foundation to a height of 2-3 feet.				
Demon WP Water Soluble Packets (Wettable/soluble powder)		Cypermethrin - 35.6%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not use as a space spray. Use only in well ventilated areas.				
Commercial Warehouses/Industrial Buildings/Storage Buildings	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not use as a space spray. Use only in well ventilated areas. Do not use in warehouses while raw agricultural commodities for food or feed are being stored. Do not use in warehouses where raw or cured tobacco is stored.				
Mills/Granaries/Seed Houses/Grain Elevators	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not use as a space spray. Use only in well ventilated areas. Do not use in warehouses while raw agricultural commodities for food or feed are being stored.				
Tobacco Processing	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not use as a space spray. Use only in well ventilated areas. Do not use in warehouses where raw or cured tobacco is stored.				
Sensitive Environments	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not use as a space spray. Use only in well ventilated areas. Do not use in rooms which are in use.				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Building Exteriors	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	Do not contact until dry	None	None
Apply as a residual spray to surfaces of buildings. Barrier treatment: Apply to a band of soil and vegetation 6-10 feet wide around and adjacent to the building. Also, treat the building foundation to a height of 2-3 feet.				
Dragnet FT (Emulsifiable concentrate)		Permethrin - 36.8%		
Animal Housing	Cockroaches	Do not contact until dry	None	None
Spray pests directly or spot treatment to walls and ceiling as residual surface treatment only. Do not treat manure or litter. Avoid contamination of feed and water. Do not apply directly to livestock or poultry.				
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not use in food/feed areas of food handling establishments. Not for use in USDA Meat and Poultry Plants. Do not apply when occupants are present in the immediate area in institutions such as libraries or sport facilities. Use only in well ventilated areas. Firewood is not to be treated. Do not apply to pets, crops, or sources of electricity. All areas where insects hide or through which insects may enter should be treated. Exposed food should be covered.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	Do not contact until dry	None	None
Apply as a residual spray to outside surfaces of buildings. Repeat treatment as necessary.				
Ficam D (Dust)		Bendiocarb - 1.0%		
Structures, Restaurants/Commercial Kitchens	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
This product is intended to be applied with a hand or power duster to hiding and runway areas and those places where pests are found. Apply thoroughly to cracks and crevices where they hide.				
Outdoor & Perimeter, Sanitary Sewers/Drain Lines/Outside Surfaces	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
To help prevent invasion of building and structures by pests, treat a band of soil and vegetation around and adjacent to the foundation. Apply this product with a power duster for cockroach control in sewers.				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Ficam Plus Insecticide (Wettable/soluble powder)		Bendiocarb + Pyrethrins - 29.45 +3.06%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not apply to humans, their clothing or bedding. Avoid breathing and working in spray mist or dust. With proper spraying, this product does not produce a visible deposit. However, if unevenly applied, or sprayed to run-off, a visible deposit may occur on some dark surfaces. Do not apply in conduits, motor housings, junction boxes, and switch boxes or ther electrical equipment because of possible shock hazard. Do not contaminate fruit, vegetables, or other feed or food crops.				
Food Areas of Food Handling Establishments	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Application is limited to spot or crack and crevice treatment only. Do not apply to humans, their clothing or bedding. Avoid breathing and working in spray mist or dust. With proper spraying, this product does not produce a visible deposit. However, if unevenly applied, or sprayed to run-off, a visible deposit may occur on some dark surfaces. Do not apply in conduits, motor housings, junction boxes, and switch boxes or ther electrical equipment because of possible shock hazard. Do not contaminate fruit, vegetables, or other feed or food crops.				
USDA Inspected Facilities	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
This product is authorized for use in non-food areas of Federally inspected Meat and Poultry Plants. Do not apply to humans, their clothing or bedding. Avoid breathing and working in spray mist or dust. With proper spraying, this product does not produce a visible deposit. However, if unevenly applied, or sprayed to run-off, a visible deposit may occur on some dark surfaces. Do not apply in conduits, motor housings, junction boxes, and switch boxes or ther electrical equipment because of possible shock hazard. Do not contaminate fruit, vegetables, or other feed or food crops.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
Apply as a residual spray to surfaces of buildings. Barrier treatments will help prevent infestations of buildings.				
Flee Insecticide (Emulsifiable concentrate)		Permethrin - 36.8%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Use only in well ventilated areas. Do not treat where food is exposed. Do not use in fogging equipment. Do not apply to pets, crops, firewood or sources of electricity.				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Food Processing (non-food/feed areas)	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Use only in well ventilated areas. Do not treat where food is exposed. Do not use in fogging equipment. Do not apply to pets, crops, firewood or sources of electricity. Do not use in food areas of food handling establishments. Not for use in Federally inspected Meat and Poultry Plants.				
Sensitive Environments	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Use only in well ventilated areas. Do not treat where food is exposed. Do not apply in patient rooms or in any rooms while occupied by the elderly or infirm. Do not apply to classrooms when in use. Do not apply to institutions in the immediate area when occupants are present.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
Apply as a residual spray to outside surfaces of buildings. Repeat treatment as necessary.				
Kicker (Emulsifiable concentrate)		Pyrethrins + PBO - 6 + 60%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
This product is an EC used as a tank-mix to increase flushing and knockdown of pests and improve control of resistant insects. Can be used with residual insecticides. This product may also be used as a space spray or undiluted ULV treatment. The insecticidal components of this product are classified as food additives and established tolerances will not be exceeded when used as directed. For residual control thoroughly spray surfaces where insects are usually found. This product may be used as a space spray to control crawling and flying insects.				
Food Areas of Food Handling Establishments	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
This product is an EC used as a tank-mix to increase flushing and knockdown of pests and improve control of resistant insects. Can be used with residual insecticides. This product may also be used as a space spray or undiluted ULV treatment. The insecticidal components of this product are classified as food additives and established tolerances will not be exceeded when used as directed. For residual control thoroughly spray surfaces where insects are usually found. This product may be used as a space spray to control crawling and flying insects. This product may be applied as a general surface, space, spot or crack and crevice treatment in both food and non-food areas of food handling establishments. When used as a space spray, vacate the treated area and keep the area closed for at least 30 minutes after treatment. Ventilate the area before reoccupying. Repeat treatment as necessary.				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
USDA Inspected Facilities	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
This product is an EC used as a tank-mix to increase flushing and knockdown of pests and improve control of resistant insects. Can be used with residual insecticides. This product may also be used as a space spray or undiluted ULV treatment. The insecticidal components of this product are classified as food additives and established tolerances will not be exceeded when used as directed. For residual control thoroughly spray surfaces where insects are usually found. This product may be used as a space spray to control crawling and flying insects. The use of this product as a space spray must be confined to time periods when the plant is not in operation.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	Do not contact until dry	None	None
Microcare Pressurized Pyrethrum Capsule Suspension (Aerosol)		Pyrethrins + Piperonyl Butoxide + MGK264 - 0.300 + 2.200 +0.336%		
Structures, Food Areas of Food Handling Establishments	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Use with the supplied actuator and injection tubes. Make spot treatments and/or crack and crevice injections into hiding places. Apply directly to insects in these locations where possible.				
Utilities	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Use with the supplied actuator and injection tubes. Make spot treatments and/or crack and crevice injections into hiding places. Apply directly to insects in these locations where possible. Use actuator to treat open boxes and exposed surfaces.				
Food Processing (non-food/feed areas)	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Use with the supplied actuator and injection tubes. Make spot treatments and/or crack and crevice injections into hiding places. Apply directly to insects in these locations where possible. Authorized for use in inedible areas of federally inspected meat and poultry plants.				
Mobile Homes/Travel Trailers/Recreational Vehicles, Vessels (Boats/Ships)	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Use with the supplied actuator and injection tubes. Make spot treatments and/or crack and crevice injections into hiding places. Apply directly to insects in these locations where possible. Close all windows and doors. Disperse in all locations. Leave area closed for 15 minutes.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	Do not contact until dry	None	None
Treat outdoor areas which are landscaped, planted or mulched or unmaintained.				
Campgrounds/Recreation Areas	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	Do not contact until dry	None	None
Treat outdoor areas which are landscaped, planted or mulched or unmaintained. Treat in the direction of a slight breeze away from user that allows the fog to drift into areas of infestation.				
Microcare Pressurized Pyrethrum Capsule Suspension (Formula 1) (Aerosol)		Pyrethrins + Piperonyl Butoxide + MGK264 - 0.300 + 2.200 + 0.336%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Use this product with supplied actuator and tubes. Inject this product into cracks and crevices. Spot, space, and general treatments are permitted for certain applications. To make a spot treatment release product onto surface. Make spot treatment and/or crack and crevice injections into hiding places. Apply directly on insects in these locations where possible.				
Mobile Homes/Travel Trailers/Recreational Vehicles, Vessels (Boats/Ships)	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Use this product with supplied actuator and tubes. Inject this product into cracks and crevices. Spot, space, and general treatments are permitted for certain applications. To make a spot treatment release product onto surface. Make spot treatment and/or crack and crevice injections into hiding places. Apply directly on insects in these locations where possible. Treat area for 1-3 seconds. Leave unoccupied for 15 minutes.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
For treatment of localized infestations in outdoor areas. Treat areas where insects are likely to enter buildings.				
Campgrounds/Recreation Areas	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Treat so that slight breeze allows fog to drift into areas of infestation. Allow spray to dry before re-entering area.				
Optem Cyfluthrin CS (Prescription Treatment) (Microcapsulated suspension)		Cyfluthrin - 6.0%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Inject cracks and crevices and/or voids where these insects may be harboring or hibernating. Do not apply to humans or their clothing or bedding. Do not contaminate food or use on household pets. Cover fish tanks prior to application. Dilute the product in water.				
Food Processing (non-food/feed areas)	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Inject cracks and crevices and/or voids where these insects may be harboring or hibernating. Do not apply to humans or their clothing or bedding. Do not contaminate food or use on household pets. Cover fish tanks prior to application. Dilute the product in water. Not for use in USDA meat and poultry plants.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	Do not contact until dry	None	None
For treatment of infestations of these insects in outdoor areas which are landscaped, planted, mulched, or unmaintained. Dilute in water and spray onto outdoor surfaces and into cracks and crevices, and into voids. Can be used as a perimeter treatment to help prevent infestations.				
Orthene Crack and Crevice Pressurized Residual (Aerosol)		Acephate - 1.0%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Use the supplied actuator and injection tubes to inject cracks and crevices and void spaces where insect may be harboring.				
Food Areas of Food Handling Establishments	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Inject cracks and crevices and void spaces where insect may be harboring. Applications of this product in the food areas of food-handling establishments other than as a crack and crevice treatment are not permitted.				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
Apply product to cracks and crevices where insects may enter premises.				
Orthene PCO Formula II (Wettable/soluble powder)		Acephate - 96%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Apply as a coarse low pressure spot spray or crack and crevice spray to localized areas where these pests are found or normally occur. Dilute in water to the desired concentration. Activity on porous surfaces may be limited. Do not apply directly to carpet as staining may occur. Do not treat unpainted masonry floors in poorly ventilated areas, especially where moisture or high humidity exists since persistent odor could develop.				
Food Areas of Food Handling Establishments	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Apply as a coarse low pressure spot spray or crack and crevice spray to localized areas where these pests are found or normally occur. Dilute in water to the desired concentration. Activity on porous surfaces may be limited. Do not apply directly to carpet as staining may occur. Do not treat unpainted masonry floors in poorly ventilated areas, especially where moisture or high humidity exists since persistent odor could develop. Limited to spot and/or spot treatment only. May be used in Federally inspected Meat and poultry plants and places other than private residences where food is held, processed, prepared or served.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	Do not contact until dry	None	None
Apply as a residual spray to surfaces of buildings and soil adjacent to the building.				
P.I. Contact Insecticide (Formula 1) (Aerosol)		Pyrethrins + Piperonyl Butoxide - 0.5 + 4.0%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Use this product with the supplied actuator and injection tubes. Inject into cracks and crevices and void spaces where insects may be harboring. May also be used as a space spray.				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Food Areas of Food Handling Establishments	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Use this product with the supplied actuator and injection tubes. Inject into cracks and crevices and void spaces where insects may be harboring. May also be used as a space spray. When applying as a space treatment in food areas, the operation being treated should be shut down. All food utensils and equipment must be covered or cleaned after treatment.				
Hospitals	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Use this product with the supplied actuator and injection tubes. Inject into cracks and crevices and void spaces where insects may be harboring. May also be used as a space spray. Patients should be removed from room prior to treatment. Room should be ventilated for at least 2 hours after spraying. Do not return patients to room until after ventilation.				
Nursing Homes	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Use this product with the supplied actuator and injection tubes. Inject into cracks and crevices and void spaces where insects may be harboring. May also be used as a space spray. Patients should be removed from room prior to treatment. Room should be ventilated for at least 2 hours after spraying. Do not return patients to room until after ventilation.				
Perma-Dust Boric Acid Dust (Dust)		Boric Acid - 99.0%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
To control pests, apply liberally, scattering under and behind appliances and into voids. Any powder visible after application must be brushed into cracks and crevices or removed. Apply only in areas inaccessible to children and pets. Avoid contamination of food and feed. Applications in new construction -- Liberally dust wall voids, soffit, and subcabinet voids. May be applied as a mop solution to control cockroaches.				
Food Areas of Food Handling Establishments	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Application limited to crack and crevice treatment only.				
Pestab (Wettable/soluble powder)		Lambda-cyhalothrin - 10.0%		
Animal Areas/Quarters, Kennels	Cockroaches	Do not contact until dry	None	3 weeks

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Do not apply when animals are present. Allow applications to dry before restocking the facility. Apply as a general and/or crack and crevice treatment.				
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	3 weeks
Restaurants/Commercial Kitchens	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	3 weeks
Use as a crack and crevice or spot treatment to selective surfaces. Do not apply when facility is in operation or when foods are exposed.				
Grocery Stores/Supermarkets, Hotels/motels	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	3 weeks
Apply as a crack and crevice or spot treatment to selective surfaces. Do not apply when facility is in operation or food is exposed.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	3 weeks
Barrier treatments: To prevent infestations of building, apply to a band of soil and vegetation 6-10 feet wide around and adjacent to outside surfaces of buildings. Also may be applied to lawn areas around residential/nonresidential buildings. Apply as a coarse spray to thoroughly and uniformly wet the foundation and/or band area.				
Prelude (Emulsifiable concentrate)		Permethrin - 25.6%		
Animal Housing	Cockroaches	None	None	None
Avoid contamination of feed and water. Do not apply directly to livestock or poultry. Apply as a spray to walls and ceilings as a residual surface treatment.				
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
During indoor application, do not allow dripping or runoff to occur. Do not apply when occupants are present in the immediate area.				
Food Processing (non-food/feed areas)	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Do not apply in food/feed areas of food/feed handling establishments. Not for use in federally inspected meat and poultry plants. During indoor application, do not allow dripping or runoff to occur. Do not apply when occupants are present in the immediate area.				
Food Storage Areas (warehouses)	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not apply in warehouses while raw agriculture commodities for food or feed are being stored. During indoor application, do not allow dripping or runoff to occur. Do not apply when occupants are present in the immediate area.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
Prescription Treatment 565 Plus XLO (Aerosol)		Pyrethrins + d-trans Allethrin + Piperonyl Butoxide + MGK264 - 0.25 + 0.25 + 1.00 + 1.00%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Use this product only with supplied actuator and tubes. Inject into cracks and crevices or void spaces where insects may be harboring, living, or breeding. Keep areas closed for 15 minutes. Open and ventilate the treated area before reoccupying.				
Food Processing (non-food/feed areas)	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Apply only when plant is not in operation. Use this product only with supplied actuator and tubes. Inject into cracks and crevices or void spaces where insects may be harboring, living, or breeding. Keep areas closed for 15 minutes. Open and ventilate the treated area before reoccupying.				
Pro-Control Plus Total Release Aerosol Insecticide (Aerosol)		Pyrethrins + Cyfluthrin + Piperonyl Butoxide - 0.5 + 0.1 + 1.0%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	2 hours	None	None
Open doors, drawers, and closets. Shut off fans and air conditioning. Set fogger on stand. Immediately leave treated area. Keep area closed for at least 2 hours. Allow treated area to air for 30 minutes.				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Hospitals, Nursing Homes	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	2 hours	None	None
Do not apply this product in any rooms while occupied by patients, the elderly, or infirmed. Open doors, drawers, and closets. Shut off fans and air conditioning. Set fogger on stand. Immediately leave treated area. Keep area closed for at least 2 hours. Allow treated area to air for 30 minutes.				
Day Care Centers, Schools	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	2 hours	None	None
Do not apply in classroom when in use. Open doors, drawers, and closets. Shut off fans and air conditioning. Set fogger on stand. Immediately leave treated area. Keep area closed for at least 2 hours. Allow treated area to air for 30 minutes.				
Pro-Control Total Release Aerosol Insecticide (Formula 1) (Aerosol)		Pyrethrins + Piperonyl Butoxide + MGK264 - 0.535 + 1.050 + 1.710%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	2 hours	None	None
Open all doors, drawers, and closets. Shut off fans and air conditioners. Set fogger on stand and leave treated area. Keep area closed for 2 hours. and allow area to air for 30 minutes.				
Sensitive Environments	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	2 hours	None	None
Open all doors, drawers, and closets. Shut off fans and air conditioners. Set fogger on stand and leave treated area. Keep area closed for 2 hours, and allow area to air for 30 minutes. Ventilate patient areas for 2 hours before returning patients to their rooms.				
Purina Hard Hitter Aerosol (Aerosol)		Permethrin - 0.50%		
Dairies, Horse Stables, Milking Parlors, Swine Housing, Beef Housing, Sheep Housing	Cockroaches	Do not contact until dry	None	None
Do not remain in treated area and ventilate after treatment is complete.				
Saga WP Insecticide (Wettable/soluble powder)		Tralomethrin - 40.00%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Food Areas of Food Handling Establishments	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Applications are permitted in food/feed areas of food/feed handling and processing establishments as a general spray, spot, or crack and crevice treatment.				
USDA Inspected Facilities	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Apply only when facility is not in operation. Do not apply directly to food/feed or food/feed handling surfaces.				
Aircraft	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Do not apply when passengers or non-essential personnel are present in area to be treated.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	Do not contact until dry	None	None
Perimeter treatment-- To help prevent infestations of buildings, apply product where pests are active and may find entrance. Residual spray-- Apply to surfaces of buildings, porches, screens, window frames, eaves, patios, refuse dumps, and garages.				
Siege Gel Insecticide (Bait)		Hydramethylnon - 2.0%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
This product may be used as a spot or crack and crevice treatment for the control of cockroaches.				
Food Processing (non-food/feed areas)	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
This product may be used as a spot or crack and crevice treatment for the control of cockroaches. Application of this product in the food/feed areas of food/feed-handling establishments other than as a crack and crevice treatment are not permitted. Not for use in USDA meat and poultry plants. Keep exposed gel away from open food and food contact surfaces. Do not apply gel to areas where food, food utensils or food processing/food preparation surfaces may become contaminated. Do not apply to surfaces where the temperature exceeds 130 degrees F.				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Food Areas of Food Handling Establishments	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
This product may be used as a spot or crack and crevice treatment for the control of cockroaches. Application of this product in the food/feed areas of food/feed-handling establishments other than as a crack and crevice treatment are not permitted. Not for use in USDA meat and poultry plants. Keep exposed gel away from open food and food contact surfaces. Do not apply gel to areas where food, food utensils or food processing/food preparation surfaces may become contaminated. Do not apply to surfaces where the temperature exceeds 130 degrees F.				
Building Exteriors	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
Apply bait to likely points of entry or harborage sites. Repeat treatments as necessary.				
Campgrounds/Recreation Areas	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
Apply baits to likely points of entry and cockroach harborage. Repeat treatments as necessary.				
Synergized Delice Pour-On Insecticide (Ready-to-Use Liquid)		Permethrin + Piperonyl Butoxide - 1.0 + 1.0%		
Cattle Barns, Dairies, Horse Stables, Kennels, Swine Housing, Beef Housing, Sheep Housing, Poultry Housing	Cockroaches	None	None	None
Use undiluted in a mist sprayer. Apply directly to the surface to leave a residual insecticidal coating, paying particular attention to areas where insects crawl or alight. One gallon will treat approximately 7,300 square feet.				
Veterinary Clinics	Cockroaches	None	None	None
Pens: Use undiluted in a mist sprayer. Apply directly to the surface to leave a residual insecticidal coating, paying particular attention to areas where insects crawl or alight. One gallon will treat approximately 7,300 square feet.				
TKO Diazinon Capsule Suspension (Microcapsulated suspension)		Diazinon - 23.0%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
<p>This product should be diluted in water and may be sprayed on any surface which will not be damaged or stained. Do not use this product indoors as an overall surface spray or as a space spray; take care not to introduce this product into the air during application. Use only in well ventilated areas. Do not apply where children are likely to frequently contact treated surface. Remove or cover fish bowls and remove pets before application. Do not treat pets with this product. Make spot treatment and/or crack and crevice injections into hiding places.</p>				
Food Processing (non-food/feed areas)	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
<p>Not for use in USDA meat and poultry plants. Application of this product in food/feed areas of food/feed handling establishments, other than as a crack and crevice treatment or limited spot treatment is not permitted.</p>				
Food Areas of Food Handling Establishments	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
<p>This product should be diluted in water and may be sprayed on any surface which will not be damaged or stained. Do not use this product indoors as an overall surface spray or as a space spray; take care not to introduce this product into the air during application. Use only in well ventilated areas. Do not apply where children are likely to frequently contact treated surface. Remove or cover fish bowls and remove pets before application. Do not treat pets with this product. Make spot treatment and/or crack and crevice injections into hiding places Not for use in USDA meat and poultry plants. Application of this product in food/feed areas of food/feed handling establishments, other than as a crack and crevice treatment or limited spot treatment is not permitted.</p>				
Hospitals	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
<p>This product should be diluted in water and may be sprayed on any surface which will not be damaged or stained. Do not use this product indoors as an overall surface spray or as a space spray; take care not to introduce this product into the air during application. Use only in well ventilated areas. Do not apply where children are likely to frequently contact treated surface. Remove or cover fish bowls and remove pets before application. Do not treat pets with this product. Make spot treatment and/or crack and crevice injections into hiding places Do not apply when occupants are present in the immediate area.</p>				
Nursing Homes	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
<p>This product should be diluted in water and may be sprayed on any surface which will not be damaged or stained. Do not use this product indoors as an overall surface spray or as a space spray; take care not to introduce this product into the air during application. Use only in well ventilated areas. Do not apply where children are likely to frequently contact treated surface. Remove or cover fish bowls and remove pets before application. Do not treat pets with this product. Make spot treatment and/or crack and crevice injections into hiding places. Do not apply when occupants are present in the immediate area.</p>				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Day Care Centers, Schools	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
This product should be diluted in water and may be sprayed on any surface which will not be damaged or stained. Do not use this product indoors as an overall surface spray or as a space spray; take care not to introduce this product into the air during application. Use only in well ventilated areas. Do not apply where children are likely to frequently contact treated surface. Remove or cover fish bowls and remove pets before application. Do not treat pets with this product. Make spot treatment and/or crack and crevice injections into hiding places. Do not apply to classrooms when in use.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	Do not contact until dry	None	None
For treatment of localized infestations of these insects in outdoor areas which are landscaped, planted, mulched, or unmaintained. For control of pests on outdoor surfaces and perimeters of buildings and on ornamental plants around the home only. Do not use this product on outdoor ornamentals other than around the home. Do not spray on windy days. Perimeter treatment-- To help prevent infestations of buildings by pests.				
Talstar Lawn & Tree Flowable (Emulsifiable concentrate)		Bifenthrin - 7.9%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	Do not contact until dry	None	None
Apply as a coarse low pressure, crack and crevice or spot spray to areas where pests hide. Do not use as a space spray.				
Building Exteriors	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	Do not contact until dry	None	None
Apply as a residual spray to outside surfaces of buildings.				
Tri-die Pressurized Silica + Pyrethrin Dust (Aerosol)		Pyrethrins + Piperonyl Butoxide + Amorphous Silica Dioxide - 0.6 + 4.8 + 8.0%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Inject into cracks and crevices and void spaces where insects may be harboring. Use with the supplied actuator and tubes to inject product where insects may be harboring, living and breeding.				

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Food Areas of Food Handling Establishments	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
Inject into cracks and crevices and void spaces where insects may be harboring. Application of this product in the food areas of food-handling establishments other than as a crack and crevice treatment are not permitted. Use with the supplied actuator and tubes to inject product where insects may be harboring, living and breeding.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
Treat cracks around doors and windows, under siding and voids foundation level, beneath guards on loading docks, into cracks in foundations and floors and in other places where these pests may enter building.				
ULD BP-100 Contact Insecticide (Formula 1) (Ready-to-Use Liquid)		Pyrethrins + Piperonyl Butoxide + MGK264 - 1.00 + 2.00 + 2.94%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	2 hours	None	None
Use full strength or dilute product as desired according to dilution table. Apply using a mechanical aerosol generator. Do not remain in treated areas after application, and leave room closed for at least 1 hour. Ventilate thoroughly before occupants are allowed to re-enter.				
ULD BP-50 Contact Insecticide (Ready-to-Use Liquid)		Pyrethrins + Piperonyl Butoxide - 0.5 + 5.0%		
Animal Housing	Cockroaches	None	None	None
Apply as a space and contact spray. This product may be applied through mechanical aerosol or ULV generators as well as thermal and conventional fogging or spraying equipment.				
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
This product may be applied through mechanical aerosol or ULV generators, as well as thermal and conventional fogging or spraying equipment. Use as a space or contact spray.				
Food Areas of Food Handling Establishments, USDA Inspected Facilities	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None

Table 1. Pesticides Available

Trade Name (Formulation)		Common Name - %		
Site(s)	Pest(s)	Re-Entry Time	Preharvest Time	Retreatment Interval
Designed for use in edible product areas of official establishments operating under the federal meat, poultry, shell egg grading and egg products inspection programs and in other food processing plants. This product may be applied through mechanical aerosol or ULV generators, as well as thermal and conventional fogging or spraying equipment. Use as a space or contact spray.				
ULD BP300 Contact Insecticide (Formula 1) (Ready-to-Use Liquid)		Pyrethrins + Piperonyl Butoxide + MGK264 - 3.00 + 6.00 + 10.00%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	2 hours	None	None
Do not apply product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons. Do not enter treated areas without protection until thoroughly ventilated or sprays have dried. For indoor application as a space, area, or contact spray. This product may be applied through mechanical aerosol or ultra low volume cold aerosol generators as well as thermal and conventional fogging or spraying equipment. As a space spray, use undiluted to kill accessible stages of insects infesting food in storage or being processed. Close room or warehouse and shut off all ventilating systems. Do not remain in the treated area after application and leave room closed for at least 1 hour. Ventilate thoroughly before occupants are allowed to re-enter. This product may be diluted using a white mineral oil or an odorless light petroleum hydrocarbon.				
Outdoor & Perimeter	Asian Cockroaches, Palmetto bugs, American Cockroaches, Smokybrown Cockroaches	None	None	None
Use diluted to kill flies, mosquitoes and gnats. Fog areas where insects are to be controlled.				
Vikane (Fumigant)		Sulfuryl Fluoride - 99.8%		
Structures	American Cockroach, Asian Cockroach, German Cockroach, Palmetto Bugs, Smokybrown Cockroach	None	None	None
For use in dwellings (including mobile homes), buildings, construction materials, furnishings, and vehicles including automobiles, buses, surface ships, rail cars, and recreational vehicles (but not including aircraft). When fumigating, observe local, state and federal rules and regulations including such things as use of chloropicrin, clearing devices, positive pressure self-contained breathing apparatus, security requirements, and placement of warning signs. Remove all edible items from the structure before fumigation if they cannot be adequately sealed to prevent exposure to treatment. Do not re-enter treated areas for 8 hours after aeration by ventilation with fans or detection of <5 ppm with an Interscan or Miran detector.				