



Spiders¹

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There are about 1000 species of spiders in the United States. They live everywhere, even inside homes and buildings. Some species are able to bite humans and inject a venom into the skin. The brown recluse and the widow spiders are considered venomous spiders; however, most spiders are not harmful to man.

Biology and Description

All spiders have eight legs and two body regions (Figure 1). They are predators, feeding primarily on insects and other arthropods. When feeding, spiders inject a digestive fluid into their prey, then suck up the digested food. They can survive for long periods of time without feeding. Some spiders have been kept alive for over two years without feeding.

Because spiders feed entirely on living insects or other animals, they may actively search for their prey, hide and wait for them to pass, or build webs to trap flying insects. Most web-spinning spiders build and abandon several webs per year. The webs are produced by glands on the spider's abdomen. The silk is a liquid which hardens when exposed to the air.

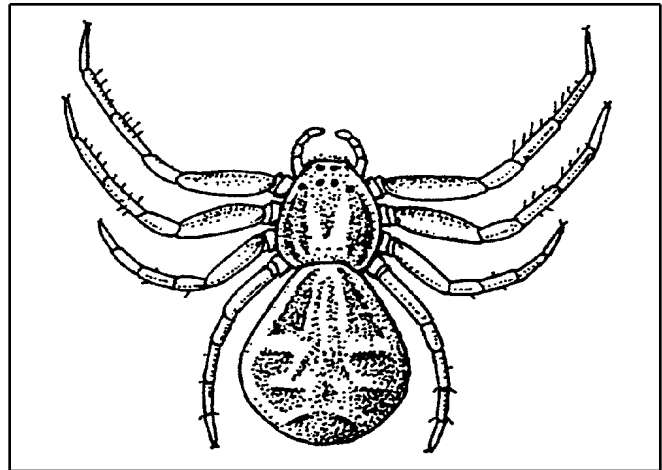


Figure 1. Crab spider (actual size 1 1/2"). Credits:

Silk is used to construct webs, safety lines, and egg sacs, and is used as parachutes for traveling long distances.

Spiders reproduce by laying eggs in a silken egg sac. The egg sac is either carried around by the female or hidden in the web. Egg sacs of large spiders may contain several hundred eggs. The eggs hatch in about 2-3 weeks after they are deposited. Most young spiders mature to adults in about one year. Male and female spiders live separately and only come together to mate. Males are usually smaller and color-marked differently than females.

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Almost all spiders found in Florida are harmless to humans and most species do not attempt to bite unless they are provoked. Spiders usually remain hidden and do not seek out and bite humans. Most spiders cannot penetrate the skin of a human with their fangs (Figure 2). Almost all spiders possess venom, but only a few are considered dangerous to humans.

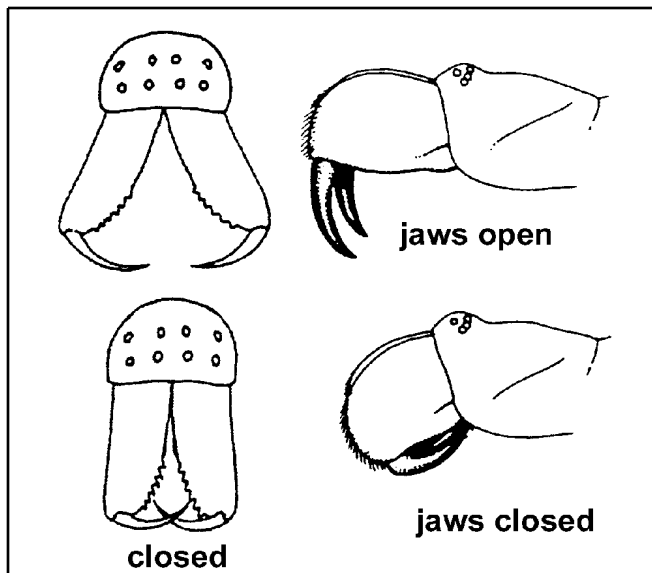


Figure 2. Fangs of the most common spiders. Credits:

Spiders are of interest since some invade homes, others are considered poisonous, and some larger species are raised as pets.

House Spiders

Several species of spiders enter houses and become a nuisance to the homeowner. Many people simply dislike spiders and cannot tolerate their presence. When numerous, spiders are annoying because they construct webs. Abandoned webs collect dust, resulting in cobwebs. However, spiders are considered beneficial because they feed on insect pests and other spiders.

Newly hatched spiders are tiny and easily enter homes through screens or around loose fitting doors and windows. Careful screening will keep larger spiders out of homes. If insects they eat are not plentiful, spiders are less likely to infest a home.

Non-Chemical Control of Spiders

Non-chemical control of spiders is usually quite effective in reducing spider populations. Outside lights should not be left on at night. Large numbers of flying insects attracted to lights cause spiders to be numerous around garages and under eaves. Trash, lumber piles, bricks, weeds, and outside structures are good breeding places for spiders and should be cleaned up. Inside the home spider webs should be brushed down. The egg sacs should be destroyed to prevent hundreds of young spiders from emerging. Vacuum cleaner attachments may be used to clean walls, and the collected debris should be destroyed.

Chemical Control of Spiders

Chemical control of spiders is difficult outdoors because web spinning spiders do not tend to contact treated surfaces. Table 1 lists recommended insecticides that are used in household pest control.

Inside the house, space sprays containing pyrethrins or pyrethroids are effective in killing spiders. Space sprays have little residual activity and should be applied when spiders are noticed. When spraying enclosed areas, care should be taken so spiders agitated by the spray do not drop onto the person doing the spraying. Repeat the treatment in 4 weeks to kill young spiders that hatch from eggs.

Dust formulations can be used in crawl spaces, attics, and utility areas to provide long-term protection. The insecticidal dusts tend to cling to the spider webs for long periods of time. When spiders chew their webs to recycle the silk they consume the toxicant and die.

Poisonous Spiders

It is important to save any biting spider so it can be identified later. Most spider bites are not likely to be dangerous, but medical care and advice should be sought in each case.

Widow Spiders

Four species of widow spiders occur in Florida: the southern black widow, the northern black widow,

the red widow and the brown widow. All these species are rather large spiders about 1 1/2 inches long with the legs extended.

The southern black widow and the northern black widow are a shiny, jet-black color. The southern black widow (Figure 3) has a red hourglass marking on the underside of the abdomen and another red spot at the tip end of the abdomen. The northern black widow has a row of red spots located in the middle of its back and two reddish triangles resembling an hourglass on the underside of the abdomen. The red widow spider has a reddish orange head-thorax and legs with a black abdomen. The abdomen may have a dorsal row of red spots with a yellow border. The red widow lacks a complete hourglass under the abdomen but may have one or two red spots. The brown widow spider varies in color from gray to light brown or black. The abdomen has variable markings of black, white, red, and yellow. On the underside of the abdomen it has an orange or yellowish-red hourglass marking.

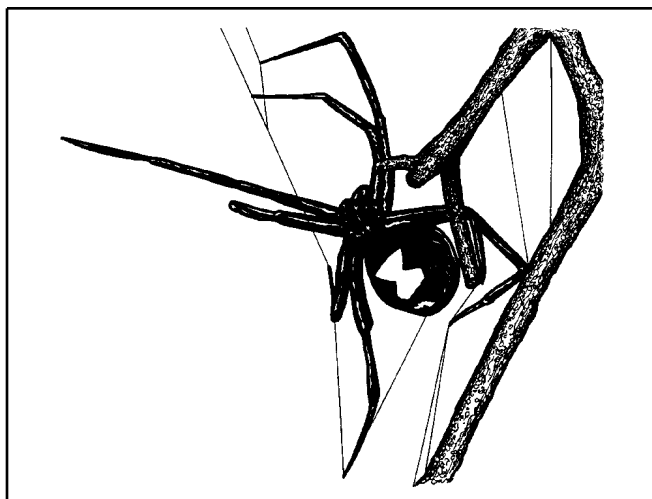


Figure 3. Southern black widow. Credits:

The life cycle of the widow spiders are all similar. The female lays approximately 250 eggs in an egg sac which is about 1/2 to 5/8 inch in diameter. The eggs hatch in 20 days and remain in the egg sac from about 4 days to 1 month. The young spiders then molt to the second stage and begin feeding. As the young spiders grow, they construct a loosely woven web and capture progressively larger prey. Male spiders molt 3 to 6 times before maturing. The

females molt 6 to 8 times and occasionally eat the males after mating. In Florida all the widows except the northern black widow breed year-round.

The southern black widow is the most widespread widow spider in Florida. It is usually found outdoors in protected places such as in hollows of stumps, discarded building materials, rodent burrows, storm sewers, and under park benches and tables. Around houses, the southern black widow is found in garages, storage sheds, crawl spaces under buildings, furniture, ventilators, and rainspouts. The northern black widow is found west of Tallahassee. It is mainly found in forests with irregular, loosely woven webs 3-20 feet above the ground. The red widow spider makes its web off the ground in palmettos habitats and has only been found in sand-pine scrub associations. The web retreat is characterized by the rolled palmetto frond, and the web is spread over the fronds. The brown widow is established pretty much throughout the Florida peninsula. It is most common on, but not restricted to, buildings. They are also found on bridges and fences as well. The egg sac looks like an old naval mine or a sandspur seed. The spiders are extremely timid; the only bites reported have resulted from a spider being accidentally trapped against the victim's body. They reproduce rapidly, and one female can produce up to 18 egg sacs. Once encountered, a spider is indicative of a widespread population which is extremely difficult, if not impossible given available control methods, to eradicate.

Like most spiders, the widow spiders are shy and will not bite unless aggravated. All four species have a strong venom. The southern black widow is involved in most poisonous spider-bite cases in Florida. The bite of the black widow is not always felt, but usually feels like a pin prick. The initial pain disappears rapidly leaving a local swelling where two tiny red spots appear. Muscular cramps in the shoulder, thigh, and back usually begin within 15 minutes to 3 hours. In severe cases, pain spreads to the abdomen, the blood pressure rises, there is nausea and profuse sweating, and difficulty in breathing occurs. Death may result from the venom, depending on the victim's physical condition, age, and location of the bite. However, death seldom occurs if a physician is consulted, and treatment is prompt.

If you suspect that a widow spider has bitten you, capture the specimen for identification and immediately consult a physician. For additional information, your doctor may wish to contact your local poison control center.

Brown Recluse

The brown recluse spider (Figure 4) is not an established species in Florida, but physicians have diagnosed its bites. The brown recluse spider is recognized by having a dark violin-shaped mark located behind the eyes. There are 3 pair of eyes on this species while most spiders have 4 pair. The brown recluse is a medium-sized spider about 1/4 to 1/2 inch in length.

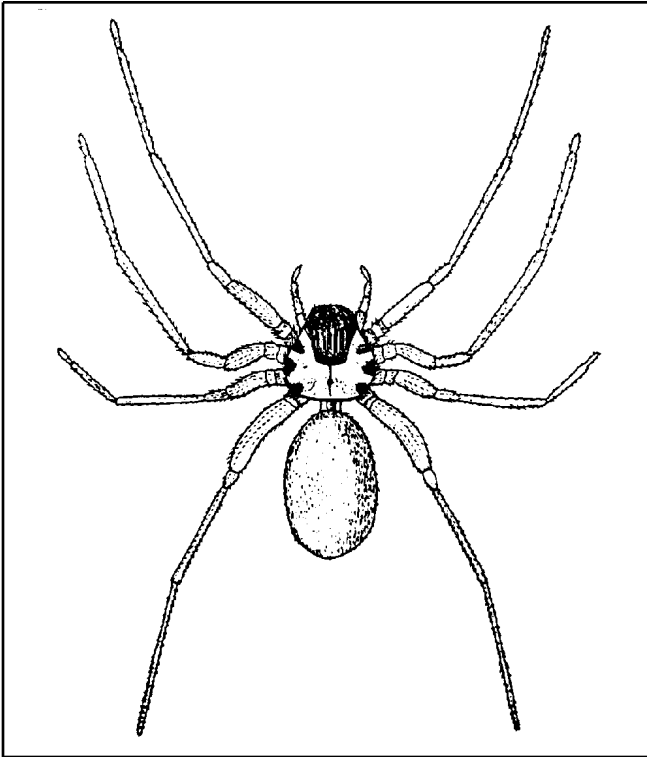


Figure 4. Brown recluse spider. Credits:

The brown recluse spider's natural habitat is along the Mississippi River valley, especially in northwestern Arkansas and southern Missouri. Because it can live in old boxes and furniture, it is easily transported by humans. Specimens of brown recluse spiders have been found in Florida, but there is no indication that it is able to survive and reproduce in Florida's environment.

The brown recluse spider is a shy species that bites humans when trapped in clothing or rolled onto when people sleep in bed. Persons bitten by the brown recluse usually do not feel pain for 2-3 hours. A sensitive person may feel pain immediately. A blister arises around the area of the bite. The local pain becomes intense with the wound sloughing tissue often down to the bone. Healing takes place slowly and may take 6 to 8 weeks. If the bite of a brown recluse spider is suspected, collect the spider and consult a physician immediately.

Tarantulas

Tarantulas (Figure 5) are not found naturally in Florida; however, some people keep tarantulas as pets. The term "tarantula" refers to about 300 species of spiders some of which can weigh 2 to 3 ounces and have a 10 inch leg span. Tarantulas are sluggish, will not bite unless provoked, and are not poisonous. However, the bites of tarantulas can be quite painful since the fangs are large and cause considerable mechanical damage to the victim.

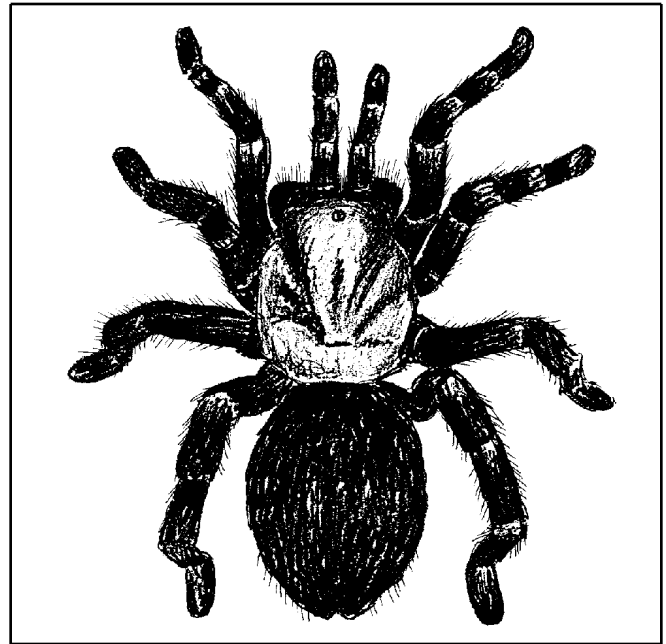


Figure 5. Tarantula. Credits:

Many tarantulas have a dense covering of stinging hairs on the abdomen to protect them from enemies. These hairs can cause skin irritation for humans. Most tarantulas that are desirable as pets have a bald spot on the abdomen and do not have stinging hairs.

Tarantulas usually live in burrows in the ground. These burrows may be dug by the spider or may be those abandoned by rodents. The tunnels are lined with silk and form a webbed rim at the entrance which conceals it. The females deposit 500 to 1000 eggs in a silken egg sac and guard it for 6 to 7 weeks. The young spiders remain in the burrow for some time after hatching and then disperse by crawling in all directions. Tarantulas do not occur in colonies since they do eat each other.

Tarantulas may live for many years. Most species require 10 years to mature to adults. Females kept in captivity have been known to live more than 25 years and have survived on water alone for 2 1/2 years. Females continue to molt after reaching maturity and therefore are able to regenerate lost legs. Males live for only one year or less after maturity.

A tarantula can be kept as a house pet. A terrarium (an empty aquarium) with a sandy bottom provides an ideal habitat. Tarantulas can be fed live crickets or other insects.

Table 1. Pesticides Available

| Trade Name (Formulation) | | Common Name - % | | |
|---|---------|--|-----------------|----------------------|
| Site(s) | Pest(s) | Re-Entry Time | Preharvest Time | Retreatment Interval |
| Aero-cide Contact Insecticide (Aerosol) | | Pyrethrins + d-trans Allethrin + Piperonyl Butoxide + MGK264 - 1.0 + 1.0 + 4.0 + 4.0% | | |
| Food Areas of Food Handling Establishments | Spiders | 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. | | | | |
| CB-38 Extra (Aerosol) | | Pyrethrins - 0.30% | | |
| Apartments/Houses/Dwellings/Structures/Garages | Spiders | None | None | None |
| Spray the insect directly when possible and spray all probable hiding places. | | | | |
| Office Buildings | Spiders | None | None | None |
| Beverage/Bottling Plants/Breweries, Food Service Establishments (restaurants) Non-food Areas, Restaurants/Commercial Kitchens | Spiders | 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 | Spiders | 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. | | | | |
| Grocery Stores/Supermarkets | Spiders | 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 | Spiders | 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. | | | | |

Table 1. Pesticides Available

| Trade Name (Formulation) | | Common Name - % | | |
|--|---------|----------------------------------|-----------------|----------------------|
| Site(s) | Pest(s) | Re-Entry Time | Preharvest Time | Retreatment Interval |
| Buses/Automobiles, Railroad Cars/Box Cars/Trains, Trucks/Trailers, Vessels (Boats/Ships) | Spiders | 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 | Spiders | 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 | Spiders | 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. | | | | |
| Hospitals, Schools, Railroad Cars/Box Cars/Trains, Trucks/Trailers | Spiders | 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. | | | | |
| Cynoff EC Insecticide (Emulsifiable concentrate) | | Cypermethrin - 24.8% | | |
| Apartments/Houses/ Dwellings/Structures/ Garages | Spiders | 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. | | | | |
| Demand CS (Microcapsulated suspension) | | Lambda-cyhalothrin - 9.7% | | |
| Hotels/Motels | Spiders | 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. | | | | |

Table 1. Pesticides Available

| Trade Name (Formulation) | | Common Name - % | | |
|---|---------|-----------------------------|-----------------|----------------------|
| Site(s) | Pest(s) | Re-Entry Time | Preharvest Time | Retreatment Interval |
| Meat & Poultry Plants (Non-edible areas) | Spiders | 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 | Spiders | 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 | Spiders | 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 | Spiders | 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 | Spiders | 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. | | | | |
| Demon EC (Emulsifiable concentrate) | | Cypermethrin - 25.3% | | |
| Apartments/Houses/Dwellings/Structures/Garages, Hotels/Motels | Spiders | 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 | Spiders | 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 | Spiders | 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. | | | | |

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 | Spiders | 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. | | | | |
| Food Processing (non-food/feed areas), Bakeries, Buses/Automobiles, Railroad Cars/Box Cars/Trains | Spiders | 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 | Spiders | 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 | Spiders | 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 | Spiders | None | None | None |
| Do not apply when classrooms are in use. | | | | |
| Aircraft | Spiders | None | None | None |
| Do not use in aircraft cabins. | | | | |
| Mobile Homes/Travel Trailers/Recreational Vehicles, Trucks/Trailers | Spiders | 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) | Spiders | None | 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. | | | | |
| Demon WP (Wettable/soluble powder) | | Cypermethrin - 40.0% | | |
| Commercial Warehouses/Industrial Buildings/Storage Buildings | Spiders | Do not contact until dry | None | None |
| Food Processing (non-food/feed areas), Beverage/Bottling Plants/Breweries | Spiders | 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 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. | | | | |
| Food Storage Areas (warehouses) | Spiders | 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 | Spiders | Do not contact until dry | None | None |
| Do not use in warehouses where raw or cured tobacco is stored. | | | | |
| Hospitals | Spiders | 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. Do not apply to institutions when occupants are present in the immediate area. | | | | |
| Nursing Homes | Spiders | 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 | Spiders | Do not contact until dry | None | None |
| Do not apply to classrooms when in use. | | | | |
| Aircraft | Spiders | Do not contact until dry | None | None |
| Do not apply to aircraft cabins. | | | | |
| Buses/Automobiles | Spiders | Do not contact until dry | None | None |
| Do not use as a space spray. Use only in well-ventilated areas. | | | | |
| Demon WP Water Soluble Packets (Wettable/soluble powder) | | Cypermethrin - 35.6% | | |
| Commercial Warehouses/Industrial Buildings/Storage Buildings | Spiders | 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 | Spiders | 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. | | | | |

Table 1. Pesticides Available

| Trade Name (Formulation) | | Common Name - % | | |
|---|---|--|-----------------|----------------------|
| Site(s) | Pest(s) | Re-Entry Time | Preharvest Time | Retreatment Interval |
| Tobacco Processing | Spiders | 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. | | | | |
| Duration Chlorpyrifos Capsule Suspension (Microcapsulated suspension) | | Chlorpyrifos - 20.0% | | |
| Campgrounds/Recreation Areas | Spiders | None | None | None |
| For treatment of localized infestations of buildings. | | | | |
| Duration Pressurized Capsule Suspension (Microcapsulated suspension) | | Chlorpyrifos - 0.5% | | |
| Food Areas of Food Handling Establishments, USDA Inspected Facilities | Spiders, Black Widow Spiders, Brown Recluse Spiders | None | None | 14 days |
| Use this product with the supplied actuator and injection tubes. Inject this product into cracks and crevices or void spaces where insects may be harboring, living and breeding. | | | | |
| Aircraft | Spiders, Black Widow Spiders, Brown Recluse Spiders | None | None | 14 days |
| Do not use in aircraft cabins. | | | | |
| Dursban Pro 2 (Emulsifiable concentrate) | | Chlorpyrifos - 24.66% | | |
| Food Areas of Food Handling Establishments | Spiders | Do not contact until dry | None | 14 days |
| Use as a spot treatment indoors. Applications of this product other than as a spot and/or crack and crevice treatment are not permitted. Do not apply to electrical equipment. Do not apply more than once every 7 days. Can be used in both food and non-food areas of food handling establishments. | | | | |
| Dursban TNP (Emulsifiable concentrate) | | Chlorpyrifos - 41.2% | | |
| Food Processing (non-food/feed areas), Food Areas of Food Handling Establishments | Spiders | Do not contact until dry | None | 14 days |
| Dilute product in water or with a suitable oil base. Use only deodorized kerosene for oil-based sprays in food handling establishments. Do not apply water based dilutions to electrical equipment. In food handling establishments, use only as a spot or crack and crevice treatment. | | | | |
| EcoPCO JET (Aerosol) | | Eugenol, 2-Phenethyl Propionate - 6.25% | | |
| Campgrounds/Recreation Areas | Spiders | None | None | None |
| Aim actuator at spiders/web and apply. Contact as many spiders as possible. | | | | |

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| Trade Name (Formulation) | | Common Name - % | | |
|--|------------------------------|---|-----------------|----------------------|
| Site(s) | Pest(s) | Re-Entry Time | Preharvest Time | Retreatment Interval |
| Engage Crack and Crevice Pressurized Residual (Aerosol) | | Chlorpyrifos - 0.5% | | |
| Food Areas of Food Handling Establishments | Spiders | None | None | None |
| Inject into cracks, crevices and voids where ants may be traveling and/or harboring, including, but not limited to, around doors, window frames, wall voids and other structural cracks and crevices. Use only with supplied actuator and injection tubes. Avoid contamination of food, food utensils, or food processing surfaces. Application of this product in the food areas of food handling establishments other than as a crack and crevice treatment are not permitted. | | | | |
| USDA Inspected Facilities | Spiders | None | None | None |
| Use only with supplied actuator and injection tubes. Inject into cracks, crevices, or voids where insects may be harboring, living, and breeding. Authorized for use in inedible areas of federally inspected meat and poultry plants. | | | | |
| Ficam D (Dust) | | Bendiocarb - 1.0% | | |
| Restaurants/Commercial Kitchens | Spiders | 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. | | | | |
| Ficam Plus Insecticide (Wettable/soluble powder) | | Bendiocarb + Pyrethrins - 29.45 +3.06% | | |
| Food Areas of Food Handling Establishments | Spiders, Black Widow Spiders | 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 | Spiders, Black Widow Spiders | 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. | | | | |
| Flee Insecticide (Emulsifiable concentrate) | | Permethrin - 36.8% | | |
| Food Processing (non-food/feed areas) | Spiders | 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. | | | | |
| Microcare Pressurized Pyrethrum Capsule Suspension (Aerosol) | | Pyrethrins + Piperonyl Butoxide + MGK264 - 0.300 + 2.200 +0.336% | | |
| Utilities | Spiders | 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. Use actuator to treat open boxes and exposed surfaces. | | | | |
| Food Processing (non-food/feed areas) | Spiders | 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. | | | | |
| Food Areas of Food Handling Establishments | Spiders | 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. | | | | |
| Mobile Homes/Travel Trailers/Recreational Vehicles, Vessels (Boats/Ships) | Spiders | 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. Close all windows and doors. Disperse in all locations. Leave area closed for 15 minutes. | | | | |
| Campgrounds/Recreation Areas | Spiders | 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% | | |
| Mobile Homes/Travel Trailers/Recreational Vehicles, Vessels (Boats/Ships) | Spiders | 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. | | | | |
| Campgrounds/Recreation Areas | Spiders | None | None | None |
| 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% | | |
| Food Processing (non-food/feed areas) | Spiders | 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. | | | | |

Table 1. Pesticides Available

| Trade Name (Formulation) | | Common Name - % | | |
|--|---------|--|-----------------|----------------------|
| Site(s) | Pest(s) | Re-Entry Time | Preharvest Time | Retreatment Interval |
| Orthene Crack and Crevice Pressurized Residual (Aerosol) | | Acephate - 1.0% | | |
| Food Areas of Food Handling Establishments | Spiders | 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. | | | | |
| P.I. Contact Insecticide (Formula 1) (Aerosol) | | Pyrethrins + Piperonyl Butoxide - 0.5 + 4.0% | | |
| Food Areas of Food Handling Establishments | Spiders | 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 | Spiders | 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 ventiated for at least 2 hours after spraying. Do not return patients to room until after ventilation. | | | | |
| Nursing Homes | Spiders | 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 ventiated for at least 2 hours after spraying. Do not return patients to room until after ventilation. | | | | |
| Prelude (Emulsifiable concentrate) | | Permethrin - 25.6% | | |
| Food Processing (non-food/feed areas) | Spiders | Do not contact until dry | None | None |
| 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) | Spiders | 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. | | | | |
| Prescription Treatment 565 Plus XLO (Aerosol) | | Pyrethrins + d-trans Allethrin + Piperonyl Butoxide + MGK264 - 0.25 + 0.25 + 1.00 + 1.00% | | |
| Food Processing (non-food/feed areas) | Spiders | 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. | | | | |

Table 1. Pesticides Available

| Trade Name (Formulation) | | Common Name - % | | |
|--|---------|--|-----------------|----------------------|
| Site(s) | Pest(s) | Re-Entry Time | Preharvest Time | Retreatment Interval |
| Pro-Control Plus Total Release Aerosol Insecticide (Aerosol) | | Pyrethrins + Cyfluthrin + Piperonyl Butoxide - 0.5 + 0.1 + 1.0% | | |
| Hospitals, Nursing Homes | Spiders | 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 | Spiders | 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. | | | | |
| Pyrenone (Ready-to-Use Liquid) | | Pyrethrins + Piperonyl Butoxide - 1.0 + 5.0% | | |
| Food Areas of Food Handling Establishments | Spiders | Do not contact until dry | None | None |
| Do not apply spray while food processing is underway. When applied as a surface treatment, food processing operations may continue. | | | | |
| USDA Inspected Facilities | Spiders | Do not contact until dry | None | None |
| When applied in federally inspected Meat, Poultry and Shell Egg, and Egg products Inspection plants, food processing must stop during application. | | | | |
| Saga WP Insecticide (Wettable/soluble powder) | | Tralomethrin - 40.00% | | |
| Food Areas of Food Handling Establishments | Spiders | 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 | Spiders | 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 | Spiders | Do not contact until dry | None | None |
| Do not apply when passengers or non-essential personnel are present in area to be treated. | | | | |
| TKO Diazinon Capsule Suspension (Microcapsulated suspension) | | Diazinon - 23.0% | | |
| Food Processing (non-food/feed areas) | Spiders | Do not contact until dry | None | None |
| 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. | | | | |
| Food Areas of Food Handling Establishments | Spiders | 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 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 | Spiders | 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 | Spiders | 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> | | | | |
| Day Care Centers, Schools | Spiders | 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 to classrooms when in use.</p> | | | | |
| Tri-die Pressurized Silica + Pyrethrin Dust (Aerosol) | | Pyrethrins + Piperonyl Butoxide + Amorphous Silica Dioxide - 0.6 + 4.8 + 8.0% | | |
| Food Areas of Food Handling Establishments | Spiders | None | None | None |
| <p>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.</p> | | | | |