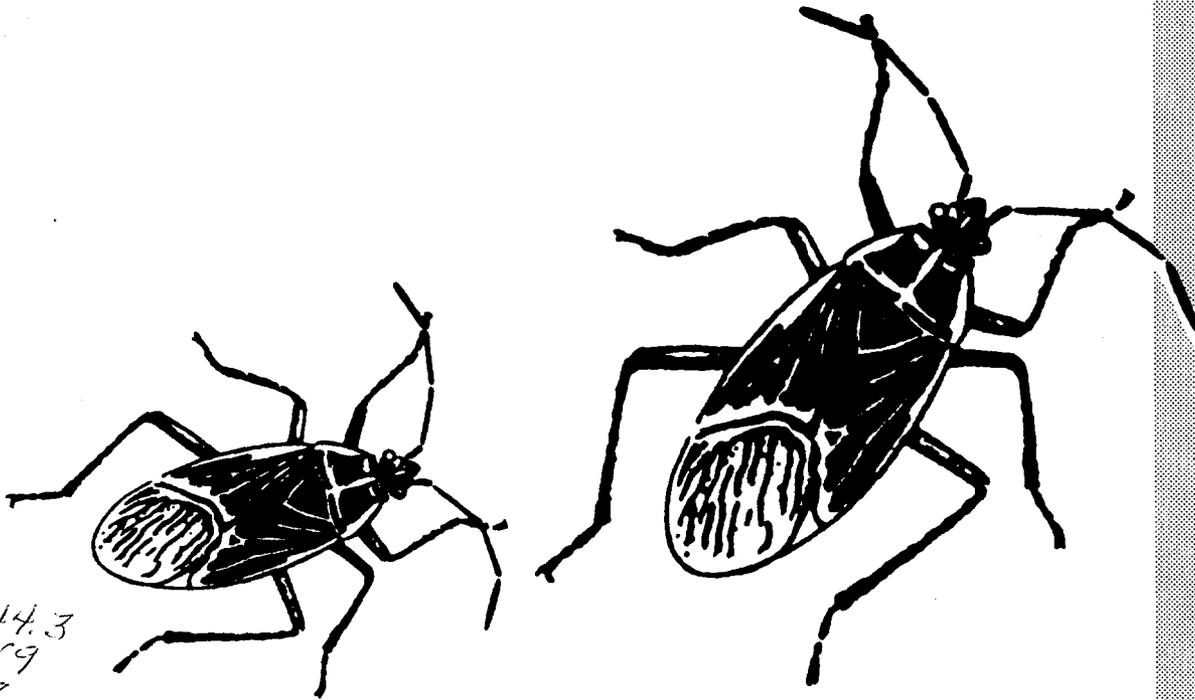


Fall Pests

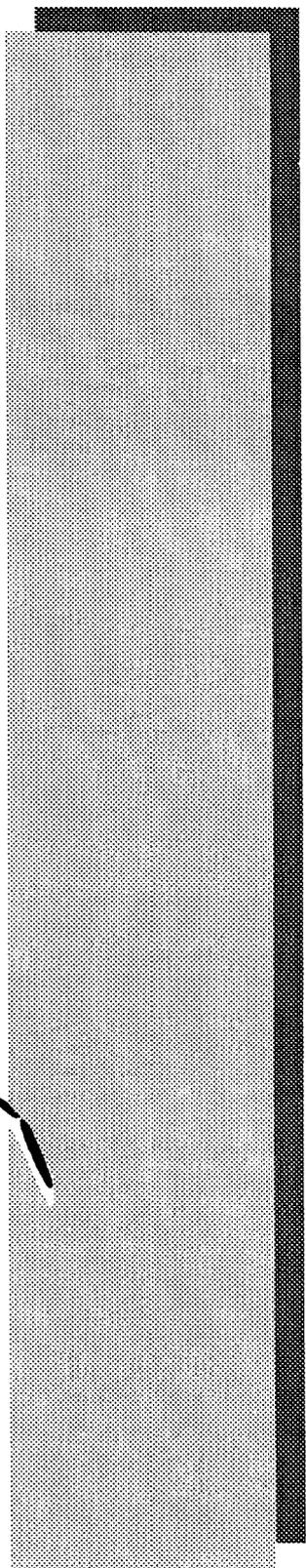


INVADING HOMES

R. Dean Christie
Former Extension Entomologist



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FEBRUARY 1991

Introduction

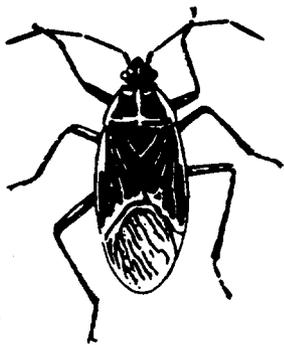
Many arthropods are nuisance household pests during the fall season. Some of these pests may be present throughout the year, while others occur only at certain times.

A number of arthropods enter homes during late summer and early fall in search of protective shelter to survive the winter. While many of these invaders do not pose a direct threat to people, fabrics or food, their very presence makes them a nuisance.

The first step in assessing an arthropod problem in the home is to correctly identify the pest. This information along with a knowledge of the biology and habits of the organism helps determine how serious the pest problem is and the appropriate control measures that may be required to effectively and safely deal with the problem. In some instances, a control procedure may not be required. However, at times continued presence of the pests may require some method of control, which may include application of a pesticide.

BOXELDER BUGS

The **boxelder bug** is a common red and black insect found on boxelder trees during the summer. Usually these bugs are a nuisance only during the early spring or late fall when they congregate in large numbers on the sides of buildings and other structures and subsequently enter homes.



Boxelder Bug

Description

Adult boxelder bugs are flat, bright-colored insects with three narrow red stripes on the prothorax (area behind head). The wings are thick and leathery at the base and membranous at the tips. Nymphs, or immatures, resemble adults in shape except they are smaller, wingless, and bright red or orange. Adults are approximately 1/2 inch long and 1/3 inch wide.

Life History and Habits

Small red eggs are laid by females in crevices of tree bark and on objects near host plants in the spring. Boxelder bugs are found primarily on seed-bearing boxelder trees although they may occasionally feed on maple, ash, plum, cherry, and apple. Nymphs hatch from the eggs in approximately 14 days and feed on new leaves and tender twigs of their host. Nymphs pass through five instars (growth stages) before becoming winged adults. Adults begin to appear in midsummer. With the arrival of cold weather, winged adults seek shelter to pass the winter. These bugs move to hibernation sites and congregate in large numbers on the bark of host trees, in cracks and crevices in walls, in door and window casings, around foundations and in other protected places. Eventually many bugs get into homes, offices and other buildings. On mild days during early winter and spring, overwintering bugs sometimes appear again to warm in the sun on light colored surfaces of buildings which face south and west. They do not damage buildings, food or fiber products but may occasionally bite if handled carelessly. However, the bite is not painful and the insect does not transmit a disease. Indoors, they may stain fabrics and walls when crushed. They can also produce an unpleasant odor.

Control Measures

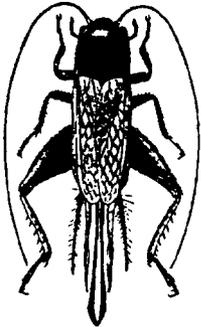
The removal of suitable host plants will reduce boxelder bug populations. However, since trees are desirable for shade and aesthetic purposes, preventing the bugs from entering the home may be more practical. All openings where boxelder bugs can enter the building should be repaired or sealed, including areas around poorly fitting doors and windows, and openings through the foundation.

Young exposed nymphs and adults on the host trees may be treated with insecticides. Insecticides should be applied to the trunk, limbs and foliage of infested trees in the spring and early summer. Areas frequented by boxelder bugs in late summer and fall can also be sprayed. Diazinon or carbaryl (Sevin®) can be applied directly to the insects where they congregate on walls, tree trunks, fences, sidewalks, porches, etc. Some formulations of carbaryl should be applied with caution as staining of some surfaces may occur. Diazinon will not harm paint or other outdoor finishes. Careful adherence to the insecticide label should always precede any application; always read and follow the label directions. Treatments may be repeated if infestations persist.

Indoor control is difficult due to the scattered infestation of boxelder bugs throughout the house. Household contact aerosol sprays containing pyrethrum, permethrin, or resmethrin may provide temporary control. When infestations affect large areas or occur in areas requiring specialized spray equipment, a professional pest control operator may be needed.

CRICKETS

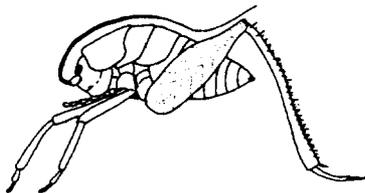
Crickets frequently become a pest in homes and other buildings. In addition to their bothersome chirping, some crickets will feed on a variety of fiber and food products found in the home. However, one or two crickets do not present a serious problem to the homeowner.



Field Cricket

Description

Several cricket species may be found in the home. Adult **house** and **field** crickets are yellowish-brown or black, respectively, and $\frac{3}{4}$ to 1 inch long. The house cricket has three dark bands on the head. Both species have slender long antennae and wings when mature. The wings of the field cricket are projected backward like pointed coat tails. **Camel** or **cave** crickets are wingless, have long antennae, and are light tan to dark brown. The head is bent downward with the back arched giving the cricket a hump-backed appearance. All three species have conspicuous, enlarged hind legs used for jumping.



Cave Cricket

Life Histories and Habits

Field crickets are found in meadows, pastures, along roadsides, and under trash and other debris. Eggs are normally laid in the ground during late summer and fall. Hatching occurs the following spring. Young crickets (nymphs) require approximately 15 weeks to complete development. Adults begin to appear in late summer and continue until the first autumn freeze. There is only one generation each year. Field crickets are normally found outdoors and prefer to feed on plant material. However, they will often seek shelter in buildings and other structures when environmental conditions are unfavorable or food becomes scarce.

House crickets live outdoors but can also breed indoors. Eggs are laid in cracks and crevices in dark locations (such as behind baseboards). Nymphs hatch from eggs in eight to 12 weeks and adults appear approximately one month later. These crickets are nocturnal, remaining hidden during the day, and are attracted to lights at night. House crickets are quite active and are frequently seen crawling up foundation walls where they invade homes through window wells and other entry ways. They are omnivorous and will feed upon many household products including silk, woolens, paper, and various foods.

Camel crickets are infrequent pests of basements and other dark, damp areas. These insects avoid light and are normally found outdoors in cool, protected places such as caves, under logs or in hollow trees. They are not of economic importance in the home.

Control Measures

Satisfactory control of crickets involves prevention and, in some cases, application of an insecticide. Proper sanitation is an important means of reducing infestation potential. Elimination of possible breeding sites will discourage crickets from laying eggs. All areas near buildings should be kept free of weeds and other dense vegetation. Discarded wood, bricks, piles of stones and other debris should be removed to eliminate areas where crickets can live. Garbage cans, compost piles and firewood should be kept away from buildings and raised off the ground if practical. All cracks, crevices, and points of entry near ground level should be caulked or sealed and screens and doors should be tight fitting. Since crickets are attracted to white, neon or mercury vapor lights, yellow or low pressure sodium lighting should be used. If crickets are numerous, night lights should be reduced or turned off.

Outside the home, the lower foundation and window wells may be treated with an insecticide. If cricket infestations are large, a 2- to 3-foot barrier swath treatment around the foundation will reduce the number of crickets attempting to invade the home. However, heavy migrations are difficult to control. Sprays of carbaryl (Sevin®), chlorpyrifos (Dursban®), diazinon, and malathion may be used outdoors. Bait formulations of Sevin® and propoxur (Baygon®) are also effective when sprays are not practical. To control crickets indoors, chlorpyrifos, and aerosol formulations of pyrethrum and permethrin are currently registered for use in areas such as along baseboards, in closets, under stairways and other areas where crickets are found. Always follow label instructions while applying any of these chemical treatments.

DOMESTIC FLIES

Various flies may become pests in homes, commercial and public buildings and other structures. Flies are not only nuisance pests, they may also be important human and animal health problems.

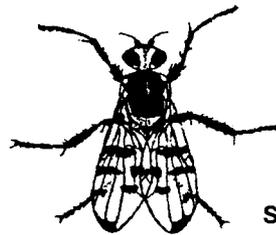
Description

Common house flies are approximately 3/8 inch long with brownish-red eyes. Adults have a dark or dull gray body with two membranous wings. Four dark lengthwise stripes mark the midsection of the body (thorax).

Blow flies, sometimes referred to as bottle flies, are relatively large, sluggish flies. Many species are characterized by a metallic black, blue, green or copper coloration. Flying adults often produce a low pitched buzzing sound.

Face and **cluster flies** resemble house flies in appearance but may be slightly larger; they measure about 5/16 inch long. The face fly has four longitudinal thoracic stripes similar to the markings found on the housefly. The thorax of the cluster fly is covered with short yellowish hairs or in the case of the face fly, slate gray. Male face flies have large compound eyes which are nearly joined on the top of the head, whereas females have a silvery stripe around the eyes. The abdomens of female face and cluster flies are normally dark gray. The male face fly has a gold and black abdomen.

Spotted winged flies are medium-sized flies which measure approximately 1/2 inch in length. They are easily identified by the unique markings found on their wings and by a characteristic flexing of the wings as the flies walk. The wings are light brown or sand colored and covered with conspicuous dark patches or spots.



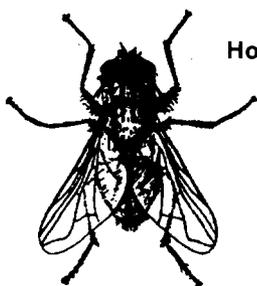
Spotted Winged Fly

Life History and Habits

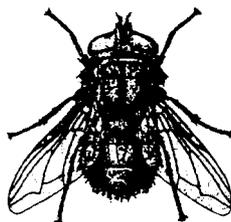
House flies are found all over the world in association with man. Eggs are laid by females during periods of warm weather and hatch into legless white larvae (maggots) in 12 to 24 hours. Larvae grow and pupate in approximately one week. The last larval stage is characterized by a thick, brown, larval skin called a puparium. This is also the overwintering stage, although adult house flies may be found in homes throughout the year, and in heated livestock facilities all stages may be found throughout the year. A typical life cycle from egg to adult normally requires eight to 12 days to complete. House flies prefer to lay eggs outdoors in decaying organic matter; they do not breed in the home. Neglected garbage and compost piles are ideal breeding sites. House flies are capable of mechanical transmission of several diseases to man including conjunctivitis, typhoid fever, tuberculosis, cholera and dysentery. They may also serve as intermediate hosts for parasitic tapeworms or roundworms of poultry and horses. Adult flies leave fecal deposits where they walk and may carry disease organisms which can be transported both inside and on the outside of their bodies.

Blow flies are attracted to dead animals, wounds, and garbage where females lay eggs. They also lay their eggs in decaying vegetable materials when meat or animal scraps are not available. Adults often gather on doors and window screens and enter homes to overwinter in the fall. Larvae feed for two to 15 days, then burrow into the soil and pupate. These flies require approximately three weeks to complete their life cycle. Blow flies have feeding habits similar to house flies and are also mechanical carriers of disease organisms.

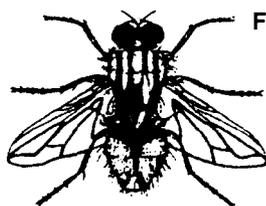
Cluster and **face flies** lay eggs in the soil and on fresh manure respectively. The larvae of face flies live on the manure until they mature and then pupate in the soil. Adults are frequent pests of livestock, feeding on secretions around the eyes and nostrils of horses and cattle. Cluster flies are parasitoids of earthworms. Eggs hatch and the larvae penetrate the cuticle of earthworms where they develop to adults. The life cycle is completed in one month and there may be several generations per year. Both face and cluster flies move to protected places to hibernate when temperatures begin to drop in the fall. The flies often congregate in voids in houses, especially in



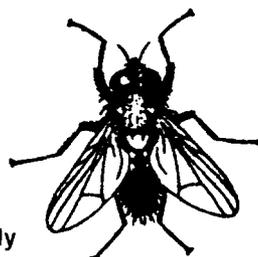
House Fly



Blow Fly



Face Fly



Cluster Fly

the walls. Large numbers may also accumulate in attics, basements and unused rooms. On warm days during the winter and spring, they will often leave their resting sites and enter rooms where they become trapped. They are also frequently found on the sunny side of buildings where they are attracted to walls which have been warmed by the sun for most of the day. In some instances, mixed infestations of face and cluster flies occur at the same time.

The habits and behavior of **spotted winged flies** are similar to face flies. Adults lay eggs in moist areas where larvae feed on organic material. They are nuisance pests in the fall, winter and spring when they move out of their overwintering sites in homes and suddenly appear on windows, walls and in vacant rooms. Like cluster and face flies, they will congregate on structures during the fall and are often found with these other fly species.

Control Measures

Good sanitation or structural improvements are two primary means of achieving adequate fly control both inside and outside the home. Sanitation programs should be addressed for specific fly problems. Basically, this involves the elimination of food sources or reduction of potential breeding sites. For house flies and blow flies, this includes the removal of decaying organic materials, garbage, animal products and other food debris from the premises. Dispose of household garbage at least twice weekly. Eliminate outdoor breeding materials such as grass clippings, rotting straw, manure and animal excrement. Wet, moist areas in the home and on the immediate premise should be thoroughly drained or allowed to periodically dry.

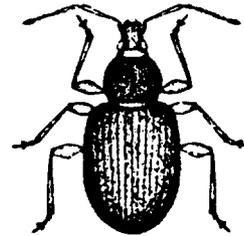
To prevent face, cluster, and spotted winged flies from entering the home, caulking compounds or similar materials should be used to seal entry ways; cracks and openings near windows, doors, vents, walls and other areas where flies frequent should be sealed. Broken or warped siding should be repaired. Adequate size screening may be used in windows and doors during the summer months to exclude flies from the building.

When preventive control measures are not adequate or practical to control fly infestations, insecticides may be applied. However, in most cases, insecticide applications will provide only temporary control and new flies will continue to be a problem. Most indoor fly infestations can be controlled using pressurized aerosol sprays of pyrethrin, permethrin or resmethrin. Applications should be directed to areas of the home where adult flies are active. Dead flies can be easily picked up with a vacuum cleaner or swept up and discarded. For outdoor control of cluster, face and spotted wing flies on buildings,

residual sprays of chlorpyrifos (Dursban®) and diazinon may provide short-term control. Fall applications timed to the first appearance of aggregating flies should be made around windows and doors and to walls where the flies frequently congregate. If severe infestations continue to persist, a professional pest control operator may have to be consulted to treat voids in the wall and other spaces where flies may be hibernating. Before applying any insecticide, the label should be carefully read and all directions followed and precautions observed.

STRAWBERRY ROOT WEEVILS _____

Several species of beetles which are pests of cultivated and wild plants move into homes and other buildings at the end of the summer. One of the most common of these is the **strawberry root weevil**. This insect is primarily a nuisance pest and does not harm food, clothing, or household furnishings.



Strawberry Root Weevil

Description

Strawberry root weevils are snout beetles. The beak, which bears the mouthparts at its tip, is a common characteristic of all weevils. However, for this particular species, the beak or snout is shorter than usual. Adult weevils are brownish-black and approximately $\frac{1}{4}$ inch long with hard-shelled bodies and rows of small pits on the wing covers. Small scattered patches of yellow or white hairs may also be apparent on the wing covers.

Life History and Habits

Adult root weevils attack a variety of plants. Females lay eggs near the crowns in early summer and newly hatched larvae burrow into the soil and feed on the roots. The weevils spend the winter as mature larvae in the soil and pupate in the spring. A small percentage of weevils overwinter as pupae or adults. There is usually one generation per year. Adults are a nuisance in and around homes in late summer and early fall as they seek overwintering sites. They will often move indoors if their food source becomes scarce or is close to human habitation. None of these weevils fly; their only means of entry is by crawling. Once indoors, they may be found crawling over the floors, up walls, in bathtubs, sinks and cupboards, and on ceilings.

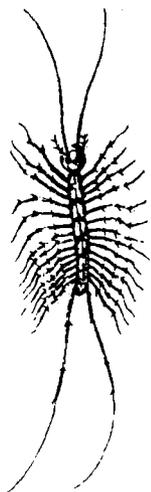
Control Measures

Because strawberry root weevils originate outdoors, control procedures which prevent indoor infestations should be implemented. Eliminating potential entry ways into the home with weather stripping or caulk may be effective. Cracks around windows, doorsills and vents should be sealed. Tight fitting screens and doors will reduce the number of weevils crawling into the home. Removal of wild strawberries, brambles and other host plants may also reduce infestations.

Treating the outside of the home with residual insecticide sprays will also help control strawberry root weevils. Sprays of carbaryl (Sevin®), diazinon, malathion, and chlorpyrifos (Dursban®) to the sides of the house, around the foundation, basement windows, and doorways and other points of entry should be applied at the first sign of weevil activity and repeated every three weeks if weevils persist. All label directions should be read and carefully followed. Chemical treatment inside the home is not practical or very effective due to the scattered presence of the weevils. Individual adults may be collected with a vacuum cleaner.

CENTIPEDES and MILLIPEDES

Centipedes and **millipedes** are outdoor inhabitants which sometimes enter homes. These arthropods frequently become nuisance pests in damp, dark areas such as basements.



House Centipede



Millipede

Description

Both centipedes and millipedes resemble worms with many legs. Centipedes are able to move rapidly while millipedes are relatively slower.

Centipedes are generally reddish-brown, flat, multi-legged animals. They have an elongated appearance with one pair of legs attached to each body segment. Antennae are long and the first pair of legs is modified into poisonous jaws. The common house centipede is approximately 1 inch long and has 15 pairs of conspicuous long legs. The antennae and pair of legs on the terminal segment are each twice the length of the body. House centipedes are gray in color and the legs appear to be banded.

Millipedes are grayish-brown or black worm-like animals with two pairs of legs on each body segment and one pair of short antennae. Their legs are relatively short and appear to ripple as they move over a surface. They often curl up into a tight C-shape and will remain motionless when disturbed. Millipedes range from 1 to 4 inches in length.

Life History and Habits

Centipedes and millipedes are related to crustaceans (shrimp and crayfish) and require moist habitats and relatively high humidities. **Centipedes** may survive for six years or more. Adults which have survived the winter lay eggs or give birth to living young in the soil. The house centipede will also lay eggs indoors. They prefer dark, damp areas and are most active at night. Centipedes are beneficial: they will actively seek out and prey on other household pests including cockroaches, flies, moths and spiders. They usually occur in relatively small numbers and are not harmful to man. **Millipedes** also overwinter as adults. Eggs are laid in the soil in the spring and early summer with the young becoming adults in late summer or early autumn. They prefer the outdoors where they feed upon plant material and the decomposing bodies of small insects and animals. Millipedes do not harm household furnishings and are incapable of biting. They are especially prevalent in areas where large amounts of organic matter have been mulched into the soil. Movement into homes usually occurs during periods of drought or when excessive moisture drives them out of their natural habitat to search for food. They are also a problem in the fall when adults are seeking sheltered areas to overwinter.

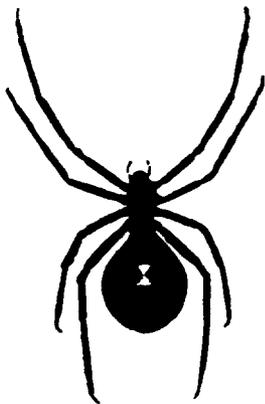
Control Measures

Since centipedes and millipedes require adequate moisture for survival, effective control may be achieved by keeping all rooms in the household dry. Leaf litter, grass clippings, compost piles and other potential breeding areas should be kept as far away from the home as possible. All cracks, crevices and other entry ways in foundation walls, doorways and around basement windows should be sealed. Eliminate excessive moisture in basements and provide adequate ventilation when possible.

When preventative measures prove ineffective or impractical in reducing infestations, insecticides may be useful. Applications of carbaryl (Sevin®), malathion, diazinon and chlorpyrifos (Dursban®) may be sprayed on the exterior foundation, window wells and other areas where centipedes and millipedes gain access into the home. In addition, a 2- to 3-foot protective barrier strip may be applied to the ground around the foundation of the house. Applications of methiocarb (Mesurol®) bait to mulch around the foundation will also provide some control. Indoor infestations may be temporarily controlled by treatments of chlorpyrifos, permethrin and pyrethrin. Treat cracks, crevices, and other hiding places behind baseboards, under laundry machines, and in basements where the pests are frequently seen. In most cases, a few centipedes or millipedes do not warrant concern. Always read all pesticide labels and follow directions.

SPIDERS and CLOVER MITES _____

In addition to the pests previously discussed, spiders and clover mites are periodically nuisance pests in homes. These organisms belong to the same class of arthropods (Arachnids) and are especially a problem in the late summer and early fall.



Female Black Widow

Many species of **spiders** occur in cohabitation with man although most are of little concern. The majority of spiders are relatively shy and avoid human contact. However, occasionally spiders can be a problem from a health standpoint. For all practical purposes, only two species of spiders are harmful to man. These include the **brown recluse** or "fiddle back" spider and the **black widow**. Although the brown recluse can be a problem in Southern states, its impact on North Dakota has been minimal. No evidence exists which indicates that this spider is able to overwinter in Northern states and any evidence of the spider in North Dakota can most likely be attributed to the spider being accidentally

brought into the state from a Southern state. Black widow spiders are widely distributed over the United States and occur annually in the more arid and dry areas of North Dakota. Outbreaks are more pronounced in the fall when females are frequently found in cracks, crevices and protected areas of buildings.

Description

Adult female black widow spiders are approximately 1½ inch long and glossy jet black in color. They are characterized by a relatively small head and thorax connected to a large, bulbous abdomen. A conspicuous, red, hourglass marking is visible on the underside of the abdomen. This spider has eight legs (as do all arachnids) which are long and segmented. Males and immatures are approximately half the size of adult females and are not poisonous. They also have light streaks on the abdomen and no red marking. Black widows make "tangle webs"; the webs are an irregular mass of fibers which produce a "snapping" sound similar to static electricity when the strands are broken.

Life History and Habits

Black widows are not aggressive and will normally not attack unless provoked or disturbed when guarding an egg sack. Egg sacks are about ½ inch in diameter, cream to brown colored, and may hold several hundred eggs. Eggs hatch in approximately 20 days depending on temperature. Young spiders are cannibalistic and populations are reduced with only a few reaching maturity within two to three months. There is usually only one generation per year. Immatures and young adults overwinter with older females dying in the fall. The name black widow is representative of the females unique habit of eating the male after mating.

The bite of the black widow is rarely painful and feels like the prick of a pin or may be undetected. There is usually some localized swelling and reddening of the immediate area around the bite. Pain may intensify after a few hours and persist for one to two days. Symptoms of poisoning include abdominal pains, nausea, profuse perspiration, elevated pulse, cramps, and difficulty in respiration. In a few cases, unconsciousness may occur. Mortality is rare and is usually limited to individuals who are either very young or elderly. In most cases, symptoms will cease after a few days. An anti-venin specific for the black widows venom is readily available.

Clover mites sometimes invade homes during the spring, winter and fall months. They may occur in large infestations, and in addition to being a nuisance, they may leave blood-red stains on linens, curtains, walls and woodwork if inadvertently crushed.



Clover Mite

Description

Clover mites are small (approximately 1/30 inch long), eight-legged and reddish-brown in color. The front pair of legs is dramatically longer than the rest and projects beyond the mites head. Eggs are normally a bright red.

Life History and Habits

Adults and immatures overwinter in cracks and crevices in tree bark and buildings. Mites also spend the winter in the exterior walls of homes. Eggs hatch into the larval stage followed by two nymphal stages and the adult. The complete life cycle takes approximately one month and there are several generations each year. Clover mites feed upon clovers, shrubs, trees, grasses and lawns. They are often found in extremely large numbers and will move into homes when unfavorable conditions such as drought or the onset of cold weather occur. New and heavily fertilized lawns are especially conducive to heavy mite populations. In the fall, clover mites will often congregate on foundation walls and the sides of homes. With the arrival of cold weather, these mites will crawl into sheltered areas such as under siding and shingles, in walls, behind door casings and windows, and inside homes. They are usually inactive when temperatures are low but become active again during brief periods of warm weather. Clover mites are frequently noticed around windows but may be found in all areas of the home.

Control Measures

Preventive measures may reduce the movement of mites from their hosts into the home. Grass and weeds should be removed from an 18- to 24-inch strip around the house foundation. Mites prefer grassy surfaces and will not readily crawl across bare ground. Often a barrier strip of pea gravel or coarse sand will discourage mite invasions. Sealing the crevices and cracks in the foundation and around the windows, doors, vents and other places where mites congregate will limit the number of potential entry ways.

When clover mite infestations are extremely heavy, preventive measures may not be effective and satisfactory control may require the application of pesticides. Outdoors, the foundation and lower walls of the home should be treated with a residual insecticide to the point of runoff. Vegetation and host plants near the home may also be treated. Additional applications should be sprayed on a 10- to 20-foot barrier strip around the foundation and out into the grass. Repeat applications may be necessary if mites continue to persist. Pesticides providing control of clover mites include diazinon, malathion, chlorpyrifos (Dursban®), and carbaryl (Sevin®). Dicofol (Kelthane®) miticide is also very effective. Controlling mites indoors is more difficult. Direct applications of pyrethrins, permethrin or chlorpyrifos will provide temporary relief. Spot treatments should also be applied to baseboards, around windows and doors, and other entry points. When indoor infestations are light, the mites may be effectively collected with a vacuum cleaner and the sweeper bag disposed of away from the house. Always follow the instructions on the pesticide label and use as directed.