

Colorado Coalition for School IPM Newsletter

February 2018

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CCSIPM Spotlight: Sting-Free Schools

Reduce the incidence of yellow jacket and wasp stings before they become a problem on playgrounds, school grounds or picnic areas

By Marcia Anderson, PhD Environmental Protection Specialist with the EPA Center for IPM.

Along with the azaleas, dogwoods and spring bulbs blooming, the bees around my home have also woken up – just in time for BBQ and playground season. Yellow jackets, wasps and hornets are beneficial insects but can be a health hazard due to the reactions that some people have to their painful stings. Early Action Prevents Trouble Later. You can often avoid severe yellow jacket problems in the fall by eliminating workers and nests in late spring and summer when yellow jacket workers are few and their nests are still small.



Avoidance. The best way to prevent unpleasant encounters with social wasps, such as yellow jackets is to avoid them. If there is a chronic problem with yellow jackets or other ‘bees’ around playgrounds, picnic areas, or athletic fields, inspect the area to locate the nests. Nests can be found in the ground, under eaves, and in wall voids of buildings. Ground nests are frequently located under shrubs, logs, piles of rocks, and other protected sites. Entrance holes sometimes have bare earth around them. Nest openings in the ground or in buildings can be recognized by observing the insects entering and leaving.



Once you know where they are, try not to allow children to go near their nesting places. Avoid swatting. Swatting and squashing wasps is counterproductive. When a yellow jacket or wasp is squashed, a chemical (pheromone) is released which attracts and incites other nearby bees. It’s best to walk away from a hovering bee. Avoid wearing bright colors, especially yellow, or floral patterns. If a child looks like a big flower, they may be attracting the curious wasp looking for nectar. Lastly, minimize the use of products with perfumes such as sweet smelling hair rinse, lotions or soaps, as yellow jackets are attracted to sweet smells.

Stings and Symptoms. Yellow jacket stings pose a more serious threat to people than stings of many other bee species. Because a yellow jacket’s stinger is not barbed like a honey bees’ stinger, the wasp can repeatedly sting its victim whereas a bee can sting only once. It can be very frightening to be the victim of multiple yellow jacket or other bee stings. The first impulse may be to run away, however the best strategy is to back slowly away from the colony until they stop attacking. Some people are more sensitive than others to bee stings due to allergic reactions while others, who experience large numbers of stings at once, may suffer severe reactions to the inflammatory substances in the insect venom.

Yellow jackets that are foraging for food will usually not sting unless physically threatened, such as being struck or swatted. Multiple stings from yellow jackets are common because they are more sensitive to disturbance and more aggressive in their nest defense. Sometimes merely coming near a nest, especially if it



Yellow jacket nest in a school wall void.
Photo: Mark Hardin, MCSD, MD

has been disturbed previously, can provoke an attack.

Prevention and Habitat Modification.

Given the potential seriousness of stings, the objective of yellow jacket and other sting insect management is to reduce child

encounters by eliminating prime foraging habitats through good sanitation practices and awareness. The most productive and least environmentally destructive ways to manage wasps and yellow jackets are (1) to reduce yellow jackets' access to food in the vicinity of human activities, and (2) to use physical controls such as nest removal and trapping.

Reduce access to food. In spring and early summer yellow jackets and other 'bees' are attracted to protein foods. In late summer and early fall, the wasp food preference turns to the sweet such as sugary drinks, ice cream or watermelon; so their behavior turns more aggressive and they are more willing to sting. Since garbage is a prime foraging /predation site for yellow jackets, garbage should be bagged, garbage cans should have tight fitting lids and dumpsters should have vertical spring-loaded swinging doors. Otherwise, the garbage (and the flies around it) become a food source for the yellow jackets. Any food left outdoors, open garbage containers or uncovered compost piles should be removed or covered. Wasps imprint food sources, and will continue to search an area for some time after the food has been removed. All refuse containers should be periodically cleaned of food wastes and should be emptied frequently to prevent the contents from impeding the closure of the lid.

Trapping will not eliminate yellow jackets but can help to reduce their numbers. Various types of traps are typically baited with liquid or dry attractants and will allow insects to enter but not escape. Do not skimp on the number of traps, as you may need lots

of traps to get effective population reduction. Place the traps around the perimeter of the area you want to protect so that you draw the yellow jackets away from the people. Aggressive trapping will significantly reduce the number of fall-foraging yellow jackets and the risk of stings. Empty the traps and change baits frequently to keep traps effective. Traps should always be placed out of reach of children.

The least environmentally destructive ways reduce stinging insect numbers is to implement Integrated Pest Management (IPM) by modifying their habitat. IPM is an effective, environmentally sensitive and a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimized economic, health and environmental risks. Although yellow jackets are not the first pest to come to mind when thinking IPM, their presence can be significantly reduced when IPM procedures are implemented. Repair windows screens, and caulk holes in siding to limit yellow jacket or wasps from entering the building. Playground and building inspections for yellow jackets and other pests should be conducted monthly to ensure that developing nests are found before they get large enough to be problematic.

For more information on [IPM for yellow jackets and wasps](#).

Colorado Coalition for School IPM Agency Partner Spotlight: A New Tool for IPM Implementation

A New Tool for School Districts Considering the Implementation of IPM Programs

Contributed by Clyde Wilson, Assistant Regional School IPM Coordinator (SEE), EPA Region 8

The U.S. Environmental Protection Agency has released a new guide for implementing Integrated Pest Management (IPM) programs in schools. It provides an overview of IPM, and lays out the important steps for schools to establish an effective verifiable IPM program. This is an update of "Pest Control in the School Environment: Adopting Integrated Pest Management," brochure that was originally published by the U.S. Environmental Protection Agency (EPA) in 1993. This edition incorporates additional concepts of integrated pest management (IPM) in schools, and addresses the roles of all stakeholders within the school community in

implementing a successful IPM program.

Integrated Pest Management And Your Schools

Improperly managed pest problems and improper pesticide use can lead to health risks for children, given the significant time they spend in and around schools. Many schools have environmental conditions conducive to pest infestations. Reducing unnecessary exposures to pests and pesticides improves health and student attendance, and leads to greater academic achievement. Healthier school environments enable children to learn and produce more in the classroom, which ultimately leads to a more productive, and higher quality life.

Children face increased risks to their health when exposed to pests and the excessive use of pesticides. They may consume or come into contact with foods and objects contaminated with bacteria associated with rodent feces and urine; contract diseases spread by biting insects; suffer asthma when exposed to cockroach and rodent allergens; or be exposed to pesticides residues when used improperly or unnecessarily. Children are more likely to experience adverse health effects than adults when exposed to these risks due to their small body size in relation to the amount of the contaminant or pathogen in the school setting. Not only are their brains and other organs still developing and more vulnerable, children's hand-to-mouth behavior and playground activities increases the likelihood that they will come into contact with pests, pathogens, and pesticides.

Protecting the health of children is a top priority for EPA, and we recommend that all school districts consider implementing programs that promote the use of integrated pest management (IPM) strategies. IPM encourages long-term, sustainable approaches to successfully manage pests. By developing a coordinated program, school leaders demonstrate their commitment to a healthy environment where students can thrive. IPM addresses not only the safety concerns of pesticide use, but also focuses on solution-based approaches that focus on the reasons why pests are present in schools.

For more detailed information Get the guide [here](#).

Featured Pest of the Month: Clover Mites & Boxelder Bugs

Many species of mites are common in Colorado turfgrass. Some, such as the oribatid or "hardshell" mites, are important in the breakdown of thatch and the recycling of nutrients. Other are important predators of pest insects and mites. Three spider mites species are among those that damage Colorado turf: clover mites, Banks grass mites and brown wheat mites.

Clover Mites

Clover mites (*Bryobia praetiosa*) are a common type of spider mite in Colorado. They breed outdoors on turfgrass, clover and other plants from fall through early May.

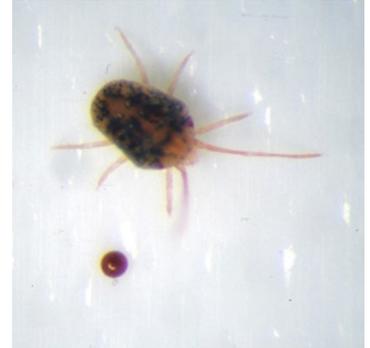


Figure 1. Clover mite with egg.

Clover mites are smaller than the head of a pin and range in color from reddish or brown to dark green. Under close examination they have an unusually long pair of front legs, which distinguishes them from the common spider mites found on garden plants.

Clover mites are most often encountered as nuisance pests in homes. During warm days in fall and spring, large numbers of clover mites may become active and enter homes through cracks around windows and doors. South-facing walls usually are more heavily infested. The crawling mites may spread to walls, curtains, furniture and carpet. Typically, clover mites are described as "walking dust specks." Although they do not bite people, transmit diseases or feed on household furnishings, they can be a serious nuisance. When crushed, clover mites leave rusty red stains that are noticeable on white surfaces.

During early to midspring, clover mites also may damage turfgrass around building foundations and in other warm, dry areas of a lawn. Feeding damage appears as small, meandering silver streaks in the leaves. When mite populations are high, leaves may be extensively injured and die. Areas of grass extending several feet from the building foundation may be totally killed, appearing as light brown, irregular dead patches.

Clover mite injury to turf is commonly mistaken for winter kill and usually is found in the same sunny,

dry areas of the lawn where winter drying problems occur. Furthermore, almost all injury occurs within 10 feet of a building, tree or some other upright surface. This is because clover mites periodically climb out of a lawn to shed their old skins and lay eggs.

Clover mites produce two or more outdoor generations during the cooler seasons, feeding on grasses and other plants. However, turfgrass injury occurs only early in the growing season, from February to May. As temperatures warm in late spring, clover mites produce dormant eggs that do not hatch until the return of freezing temperatures in fall. Because of this habit, clover mites are considered cool-season mites, in contrast to many other spider mites that cause greatest damage during warm months.

Control

Migrations of clover mites into buildings can be largely deterred by keeping grass and other host plants away from the base of the foundations. Usually a plant-free barrier of about three feet will be sufficient, although sometimes this may also be crossed. Since clover mites almost always enter the sun-exposed sides of buildings (i.e., south, west) this barrier is best established in these areas.

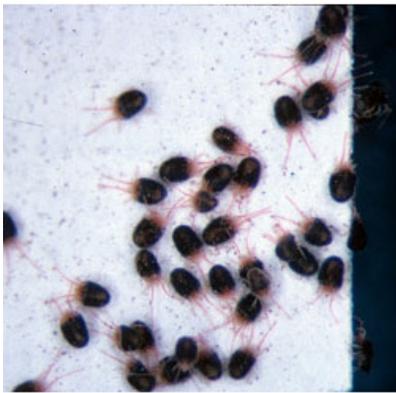


Figure 2. Clover mites on sticky card.

Carefully sealing/caulking all exterior openings through which mites enter can also prevent indoor migrations. Give particular attention to cracks around windows. Clover mite migrations can also be prevented by use of a fine layer of various dusts around windows and other points of entry. Talc-containing baby powder, diatomaceous earth, and even baking soda or corn starch may create an effective barrier through which clover mites can not pass. Clover mites should not be crushed, as they will leave a rusty stain, but can be vacuumed. Left alone, clover mite problems end on their own with warm weather in May or early June, forcing them into summer dormancy.

Clover mite populations on lawns can be greatly reduced by providing some supplemental watering to areas where clover mites develop, such as warm, dry areas at the base of sun-exposed walls and around evergreens. This can be supplemented with spot

spray treatments of insecticides in those areas where clover mites develop. However, presently there are no highly effective chemical controls for clover mites. Insecticide formulations labeled for use on lawns and that have either the active ingredient bifenthrin or lambda-cyhalothrin are most likely to assist in control of clover mites.

Banks Grass Mite

Banks grass mite (*Oligonychus pratensis*) is a common mite species in Colorado. It is a serious pest of corn and also damages drought-stressed turf. It causes grass to turn a bleached straw color, often killing it rapidly. The Banks grass mite adapts more to warm weather than the other common turf damaging mites and is found throughout most of the growing season.

Banks grass mite differs considerably in appearance from the other turf-damaging mites. It is smaller and lighter in color. During most of the season, it is green; the young stages are a paler color. During periods when the mites run out of food or environmental conditions are unfavorable, they may temporarily turn bright red. This mite lacks the elongated front pair of legs of the clover mite. It is related to the spruce spider mite (*Oligonychus ununguis*), a common pest of evergreens but with different feeding habits.

Banks grass mite is more destructive to turf than other turfgrass mites. In early stages of feeding injury, there is small, white flecking (stippling) similar to that of other mites. A slight purpling of the injured grass blade may be observed, which also is associated with brown wheat mite injury. Dead grass takes on a brownish-yellow color and the blades are stiff. Under favorable conditions, severe injury can progress rapidly. Almost all serious injury by Banks grass mite is related to drought stress.

Control

Banks grass mite is a difficult species to control with pesticides. Probably most effective are turfgrass

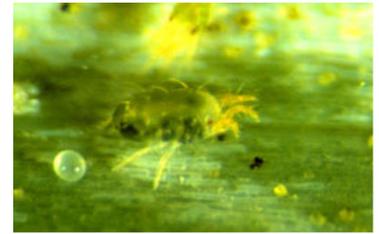


Figure 3. Banks grass mite. (Photo by F. Peairs.)



Figure 4. Banks grass mite turf injury.

products that contain either lambda-cyhalothrin or bifenthrin as the active ingredient. These are sold under several trade names.

Base all control programs on adequate water to the site. This includes fall and winter watering as needed, since populations of the mites can build up during this period. Under conditions of drought, control of the mite is often unsatisfactory.

Brown-Wheat Mite

The brown wheat mite (*Petrobia latens*) occasionally damages turfgrass during spring, similar to the clover mite. Problems generally are associated with areas of drought stress and



Figure 5. Brown wheat mite. (Photo by F. Peairs.)

excessive winter drying. However, unlike the clover mite, populations are not so concentrated around buildings or trees. South-facing hills and highway medians are typical areas where turf damage by brown wheat mite can be expected.

Control

Adequate winter and spring watering are important in limiting infestations of brown wheat mite. If conditions promote turfgrass growth, the plants usually outgrow injury. Brown-wheat mite appears to be susceptible to insecticides used for control of other turfgrass mites.

¹Colorado State University Extension entomologist and professor, bioagricultural sciences and pest management. 5/94. Revised 6/13.

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Boxelder Bugs

For most people, the boxelder bug needs no introduction. This bug is about 1/2 inch long as an adult, black with three red lines on the thorax (the part just behind the head), a red line along each side, and a diagonal red line on each wing.

The immature forms (Figure 3) are smaller and are easily distinguished from the adults (Figure 1) by their red abdomens and lack of wings. The small milkweed bug (Figure 4) and the goldenrain tree bug (Figure 5) are local insects that are sometimes confused with boxelder bugs. Boxelder bugs become a nuisance in and around homes from fall through early spring.

Boxelder bugs feed on a variety of plants, but their favorite food is boxelder seed pods, which are found only on the female boxelder tree, and occasionally maple seeds. These bugs seldom develop in sufficient numbers to be a nuisance unless a female boxelder tree is in the neighborhood.

Overwintering

The boxelder bug overwinters as an adult in protected places such as houses and other buildings, in cracks or crevices in walls, doors, under windows and around foundations, particularly on



Figure 1: Boxelder bug. (Photo courtesy of Clemson University Extension.)



Figure 2: Boxelder bug eggs on leaf. (Photograph by W. Cranshaw.)



Figure 3: Boxelder bug nymph. (Photograph by F. Peairs.)

south and west exposures. In the spring when tree buds open, females lay small, red eggs on leaves (Figure 2) and stones and in cracks and crevices in the bark of female boxelder trees.

The eggs later hatch into young nymphs that are wingless and bright red with some black markings. These young bugs usually are found on low vegetation near boxelder trees until seeds are formed on the tree, on which they start to feed.



Figure 4: The small milkweed bug is a seed feeding bug that resembles the boxelder bug

Boxelder bugs are primarily a nuisance pest, annoying residents by crawling on exteriors and inside dwellings on warm fall and winter days. They also may stain draperies and other light-colored surfaces and produce an unpleasant odor when crushed, but these are not major problems. They do not reproduce during this period. They may attempt to feed on house plants but do not cause any damage. On rare occasions, they have been reported to bite humans.

Types of Control

The most permanent solution to the boxelder bug problem is the removal of female boxelder trees from a neighborhood, although this may not be practical or desirable.

Because boxelder bugs usually overwinter near the trees that they feed on,

the removal of one or two problem trees may help. Screening or sealing cracks or other entrances into the dwelling is important. Once boxelder bugs have entered the home, control becomes more difficult.



Figure 5: Goldenrain tree bug is sometimes confused with the boxelder bug. (Photo by W. Cranshaw)

When the bugs begin to congregate on building exteriors, these areas (including all resting and hiding places) may be sprayed with residual insecticides. However, most insecticides registered for treatment of building exteriors are not that effective against boxelder bugs. Laundry detergent and water mixes are cheap, safe and effective when applied directly to boxelder bugs. Drawbacks of detergent sprays are that they will kill only if they contact the insect directly, and they may damage vegetation.

Use a vacuum cleaner to control bugs that have entered the house. Household insecticidal aerosols and many household spray cleaners also are effective when applied directly to individual insects. These measures provide temporary relief only. Bugs may continue to enter the home as they move about on warmer days throughout the fall, winter and early spring. Nuisance infestations should be finished by late May, as the boxelder bugs have either died or moved back to the host trees.

* Colorado State University Extension entomologist and professor, bioagricultural sciences and pest management. 7/95. Revised 12/14.

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Current Pests: What Are You Seeing?

Arapahoe, Douglas, & Elbert Counties

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Indian meal moth: Adult moths emerge from stored foods and can be seen flying around homes.

Carpet beetles: Some adults may emerge and be found in homes.

Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes

Denver Metro Area

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Carpet beetles: Some adults may emerge and be found in homes.

Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Winged termites: Winged reproductive stages begin to emerge and swarm.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes

Ants: Field ants forage in homes for sweet materials.

Clover mites: On very warm days in February clover mites may become active on lawns and sides of buildings.

Eastern Plains Counties

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Carpet beetles: Some adults may emerge and be found in homes.

Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Winged termites: Winged reproductive stages begin to

emerge and swarm.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes

Ants: Field ants forage in homes for sweet materials.

El Paso & Teller Counties

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Indian meal moth: Adult moths emerge from stored foods and can be seen flying around homes.

Carpet beetles: Some adults may emerge and be found in homes.

Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes

High Country Counties

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Indian meal moth: Adult moths emerge from stored foods and can be seen flying around homes.

Carpet beetles: Some adults may emerge and be found in homes.

Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes

Northern Front Range

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Indian meal moth: Adult moths emerge from stored foods and can be seen flying around homes.

Carpet beetles: Some adults may emerge and be found in homes.

Conifer seed bugs, Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes

Clover mites: Migrations of mites from lawns into

buildings may begin at this time, during warm days

Ants: Field ants forage in homes for sweet materials.

Pueblo & Fremont Counties

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Carpet beetles: Some adults may emerge and be found in homes.

Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Winged termites: Winged reproductive stages begin to emerge and swarm.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes

Ants: Field ants forage in homes for sweet materials.

Southwestern Counties

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Indian meal moth: Adult moths emerge from stored foods and can be seen flying around homes.

Carpet beetles: Some adults may emerge and be found in homes.

Conifer seed bugs, Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes

Swallow Bugs: Overwintered swallow bugs start to become active in anticipation of returning migrant birds - and bite humans.

Clover mites: Migrations of mites from lawns into buildings may begin at this time, during warm days

Tri-River Counties

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Carpet beetles: Some adults may emerge and be found in homes.

Boxelder bugs, cluster flies, root weevils, lacewings:

Overwintered adults become active in and around

homes.

Winged termites: Winged reproductive stages begin to emerge and swarm.

Indian meal moth: Although infestations may persist year-round, presence of moths often declines in homes at this time.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes

Ants: Field ants (Formica species) may forage in homes for sweet materials.

Source: <http://bspm.agsci.colostate.edu/outreach-button/insect-information/> (Yard/Garden Insect Calendars)

Daycare and School Poison Safety

A recently released article from the Poison Control Centers(AAPCC) and National Pesticide Information Center (NPIC) offers a few simple steps to help prevent poisonings at daycare and school.

Full Article available at: <http://www.aapcc.org/prevention/daycare-school-poison-safety/>

Credits

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