

# Colorado Coalition for School IPM Newsletter

## August 2018

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### Colorado Coalition for School IPM Agency Partner Spotlight: EPA- Bear Aware

#### When in Bear Country, Stay Bear Aware

By Marcia Anderson

As a former Scout leader I've spent a lot of time in places visited by black bears. I often taught bear-safe practices. As Scouts, my daughter and sons learned about bears at an early age and continue to put into practice prevention lessons they learned.



Adult black bear  
Photo: Pam McIlhenny, fws.gov

Today, I educate schools and communities about preventing pests through Integrated Pest Management, a sensible and sustainable approach to controlling pests. The main principle is prevention. Every pest needs food, water and a safe harbor to survive. If one of these is denied, the pest will no

longer thrive and will move on. So yes, just think of bears as very big pests.

As bear populations increase and more people live and recreate in areas occupied by bears, human-bear conflicts also increase. Most of these conflicts are caused by our lack of knowledge.

Bears have made a comeback throughout New England. although Maine has the largest bear population, the American black bear, the largest predator in the Northeast, rose more dramatically in Massachusetts, where the numbers of native bears grew nine-fold since 1980s, from a few hundred to more than 4,500.

If you live in, or visit bear country here are a few things you should keep in mind.

As I said, pest management includes removing whatever attract pests – in this case, food for bears. Garbage is the biggest offender Bears can smell food from more than a mile away. They travel great distances to track down smells, crossing roads and bridges and placing themselves and people at risk.

Bears will eat just about anything they deem to be nutritious. The calories a bear can consume by picking through garbage can surpass the forage they can find in nature. Problems arise when bears have access to food sources such as garbage, barbecue grills, pet food, or bird seed. Normally, black bears are too shy to risk contact with humans, but their need to find food can overwhelm this fear.

Once a bear finds a food source, such as school dumpsters or neighborhood garbage cans, it will continue to forage until the food is removed. It may take weeks for the bear to understand the food source is no longer available. Once a bear is dependent on human food, its chances of survival are reduced.

If your school, home, or business is in an area that attracts bears, build a shed to protect your garbage cans or secure garbage in a bear-resistant containers. Tightly tie all bagged garbage and keep lids closed to reduce odors.

Teach your children to respect, not fear bears. Black bears are typically not aggressive and usually flee when confronted. Make a plan identifying safe areas, noting clear escape routes for the bear, and collecting noise-making items to scare off the bear.

After a bear visit, look around to see what might have attracted it.



If you live in or work in bear country, encourage surrounding neighbors and your local government, to pass ordinances to keep potential bear food sources secure. It is illegal in many states to place food or garbage out that attracts bears and causes conflicts.

Feed pets indoors or bring in dishes after feeding. Remove bird feeders from late spring through early fall and when they are up, empty them nightly. Keep outdoor grills clean and stored securely. Keep areas under fruit trees clean. Better yet, if you don't want bears, don't plant fruit trees! Compost also attracts bears so don't keep compost in unsecured areas.

If you live in bear country, adopt preventative measures that will help you and the bears avoid unwanted encounters. For more visit the [National Park Service bear safety webpage](#).

*Marcia Anderson, who has a doctorate in environmental management, works with EPA's headquarters on issues related to pest management in schools.*

## Featured Pest of the Month: Colorado Ticks and Tick-Borne Diseases

Ticks are blood-feeding parasites of animals found throughout Colorado. They are particularly common at higher elevations. Problems related to blood loss do occur among wildlife and livestock, but they are rare.

Ticks are most important because they can transmit diseases such as Colorado tick fever, Rocky Mountain spotted fever, tularemia and relapsing fever. Lyme disease is an important tick-borne disease in much of the eastern United States. Fortunately, ticks known to transmit it are not known to occur in Colorado, and no confirmed cases have originated in the state.

Some 30 species of ticks occur in Colorado (Table 1 lists the more common ones). Hard-shelled ticks (Ixodidae family) predominate and are represented by such familiar species as the Rocky Mountain wood tick, American dog tick and brown dog tick. Hard-shelled ticks have a distinctive plate on the back just behind the head. At each stage of development, the tick attaches itself to a host, feeds for several days, becomes extremely bloated, and then drops off the host.

Soft ticks (Argasidae family) are much less commonly encountered. They usually are found in the nests of their animal hosts. They tend to feed intermittently but repeatedly, for only a few hours at a time. One exception is the spinose ear tick, rare in Colorado that feeds for several months while attached to a large mammal host.

### Life Cycle of Ticks

Almost all human encounters with ticks involve either the Rocky Mountain wood tick or the closely related American dog tick. They have a typical life cycle that involves four distinct stages: egg, tiny six-legged larva or seed tick, nymph and adult.

Rocky Mountain wood ticks and American dog ticks are typical of a three-host tick. During each feeding stage (larva, nymph and adult), the tick must find and feed on a different animal, because the tick drops from the host after the blood meal. Females lay their eggs on the ground. The newly hatched larvae seek a small mammal, such as a rodent, as the first host. After feeding, they drop to the ground and molt to the nymph stage. The nymph then seeks its own small mammal host. After feeding this second time, the nymph drops from the animal and molts to the adult stage. Adult Rocky Mountain wood ticks and

American dog ticks then feed on a large mammal host, such as a dog or deer. After this feeding, the adults drop off the host and mate, and the females lay eggs. It is the adults that occasionally feed on people.

Ticks are highly sensitive to carbon dioxide, which is exhaled by animals as they breathe, and seek it out. They often are poised at the top of vegetation so they can readily cling to passing animals.

A complete life cycle for these and other multihost ticks may take from a few months to several years to complete. Its length is mostly determined by how successful they are in locating new hosts. They are highly resistant to starvation and, if necessary, can survive

several years without feeding. The common species are most active in late spring and early summer. If the tick has not found a host by the time that hot summer temperatures arrive, it seeks cover under leaves and remains dormant until the next year. Peak periods of



Figure 1: Adult ticks, engorged adult at left.

tick activity can begin as early as March during warm seasons. They usually subside by mid-July.

A multihost tick with a somewhat different life history is the brown dog tick. This tick can breed continuously indoors and may feed repeatedly on a single (dog) host during each of the three development stages.



Figure 2: Adult Rocky Mountain wood tick. Photograph courtesy of Oregon State University.

### Avoid Tick Habitat

Avoid traveling through areas where ticks are abundant. Ticks are most active in spring and early summer and concentrate where their animal hosts most commonly travel. This includes brushy areas along the edges of fields and woodlands



Figure 3: Soft tick.

or commonly traveled paths through grassy areas and shrublands

### Use Tick Repellents

There are a few effective tick repellents. By far the most common is DEET (N,N-diethyl-metatoluamide), the active ingredient in most common insect repellents, such as Cutters and Off!. Apply DEET directly to the skin or to clothing. Repellents are most effective if applied to pants and other areas of the lower body likely to come into contact with ticks.

DEET can be an effective repellent for ticks as well as other biting arthropods, such as chiggers and mosquitoes. However, the following precautions are encouraged:

1. On children, do not use high concentration formulations (above 30 percent).
2. Apply the repellent to clothing, rather than to skin.
3. Do not apply DEET to hands or other areas that may come into contact with the mouth.
4. Do not apply to wounds or irritated skin.
5. After use, wash or bathe treated areas, particularly on children.

**Permethrin** (Permanone) is a new tick product. Apply it only to clothing, not to skin. It can kill ticks rapidly. Permanone also may have some repellent activity against ticks.

### Wear Protective Clothing

Long pants, long-sleeved shirts and other clothing can help exclude ticks or keep them from attaching to the skin. Ticks are usually acquired while brushing against low vegetation, so pulling socks over the bottom of the pants leg also is useful. Light-colored clothing can make it easier to find ticks that have been picked up.

### Conduct Tick Checks

Ticks take several hours to settle and begin feeding. This gives you ample time to detect and remove them. The Rocky Mountain wood tick typically takes 12 to 24 hours to start feeding. Therefore, a thorough "tick check" can be an effective alternative to repellents. After walking through areas where ticks might be present, carefully look for and remove any ticks you may have picked up.

### Controlling Brown Dog Ticks in a Home

Unlike the more common ticks (American dog tick, Rocky Mountain wood tick), the brown dog tick spends most of its life around the dog host. It is a subtropical species that cannot survive outdoors year-round in Colorado. Infestations most often develop in protected areas, such as kennels. After they have taken a blood meal, adult ticks may crawl up walls and lay eggs in cracks and corners of the room.

Treatment of the dog is essential, using one of the many flea and tick powders, dips or collars. However, areas that the dog frequents, such as bedding and resting areas, also need to be treated to kill residual ticks. Vacuum cracks along baseboards where ticks may hide and spot treat these areas with insecticide. Discard the vacuum bag and contents after treatment.

If possible, wash bedding and all other materials. Because these ticks are sensitive to cold, storing infested items outdoors during very cold temperatures also can kill these ticks. It may take several weeks and multiple treatments to eliminate brown dog ticks.

### How to Remove a Tick

Once a tick has become firmly attached to the skin, removal can be difficult and should be done with care. The mouthparts are barbed, so they may remain after removal and allow infection. Fortunately, the Rocky Mountain wood tick, the most common species found in Colorado, is relatively easy to remove because it has fairly short mouthparts. The recommended procedure for removal of ticks is:

1. Grasp the tick with blunt tweezers, as close to the skin as possible. If tweezers are not available and you must use your fingers, cover them with tissue or thin plastic to avoid the possible transmission of any disease organisms, such as tularemia, that the tick may harbor.
2. Pull the tick slowly and steadily, straight away from the skin. Try not to crush the tick as you remove it.
3. After the tick is removed, treat the feeding site with a disinfectant. Wash your hands when done.

Many other methods have been popularized to remove ticks, such as covering them with petroleum jelly or touching them with a hot match. These methods are not effective.

A rare but potentially serious condition from tick feeding is tick paralysis. This occurs when certain ticks (in Colorado, particularly the Rocky Mountain wood tick) remain attached for a long period and produce an ascending paralysis. Early symptoms,

such as difficulty walking, progress to more generalized symptoms, such as limb numbness and difficulty breathing. This condition is completely reversible when the tick is removed.

Scientific name (common name)	Hosts
<i>Dermacentor albipictus</i> (winter tick)	Deer, elk and large domestic animals.
<i>D. andersoni</i> (Rocky Mountain wood tick)	Small rodents, porcupines, deer and large domestic animals. Most common species that bites people.
<i>D. parumapertus</i>	Primarily jack rabbits.
<i>D. variabilis</i> (American dog tick)	Small rodents, dogs, raccoons and other animals. Occasionally feeds on people.
<i>Haemaphysalis leporis-palustris</i> (rabbit tick)	Rabbits, jack rabbits.
<i>Ixodes cookei</i>	Wide variety of rodents and carnivores. Occasionally feeds on people.
<i>I. kingi</i>	Prairie dogs and associated animals.
<i>I. sculptus</i>	Burrowing rodents, such as ground squirrels, and their predators.
<i>I. spinipalpis</i>	Rabbits, wood rats and Peromyscus mice.
<i>I. texanus</i>	Weasels and martens.
<i>Ornithodoros hermsi</i>	Chipmunks, rock squirrels and other rodents.
<i>Rhipicephalus sanguineus</i> (brown dog tick)	Dogs. Infrequently feeds on people. Sometimes reproduces within the home.

W.S. Cranshaw and F.B. Pears, Colorado State University Extension entomologists and professors, bioagricultural sciences and pest management.

Colorado State University, U.S. Department of Agriculture, and Colorado counties cooperating. Extension programs are available to all without discrimination. No endorsement of products mentioned is intended nor is criticism implied of products not mentioned.

Disease/causal organism	Incidence in Colorado	Symptoms	Tick vectors
Colorado tick fever/biphasic fever (a virus)	The most common disease transmitted by ticks. About 200 cases per year are reported, but it is suspected that this disease is largely underreported.	Generally flu-like, including aching, fever, chills and fatigue. This typically lasts for 1 to 3 days. More severe complications sometimes develop.	Rocky Mountain wood tick, American dog tick.
Lyme disease (a bacterium, <i>Borellia burgdorferi</i> )	No confirmed infections in people have originated in Colorado.	A characteristic ring-like rash develops at the feeding site. Aching, headache and flu-like symptoms are typical early. Serious complications sometimes develop, including numbness and/or partial paralysis, severe headaches, fatigue, and effects on joints (arthritis), heart or nervous system.	Black-legged tick ( <i>Ixodes scapularis</i> ). Ticks confirmed to transmit Lyme disease to people are not known to occur in Colorado. It is transmitted by <i>I. spinipalpis</i> to rodents.
Relapsing fever/borreliosis (a bacterium, <i>Borrelia hermsii</i> )	Very rare.	Rapidly developing fever 3 to 10 days after initial infection. Fever declines after about 4 days but may recur in multiple cycles.	Soft ticks of the genus <i>Ornithodoros</i> that are associated with rodents (e.g., chipmunks, pine squirrels). Human infections typically occur when camping in rustic cabins inhabited by infected rodents.
Rocky Mountain spotted fever (a bacterium, <i>Rickettsia rickettsii</i> )	Rare, much more common in some areas along the Atlantic coast. About 3 cases per year, on average, are reported in Colorado. Historically, most cases have occurred in northwestern Colorado.	Initially, a general feeling of malaise and/or aches. A characteristic rash develops, starting on the wrists and ankles and later spreading to the rest of the body, including palms and the soles of feet. High fever is associated with infections.	Rocky Mountain wood tick, American dog tick.
Tick paralysis	Rare. Occurs when certain ticks remain attached for a long period.	Early symptoms (e.g., difficulty walking) progress to more generalized symptoms (e.g., limb numbness, difficulty breathing). This condition is completely reversible when the tick is removed.	Rocky Mountain wood tick.
Tularemia (a bacterium, <i>Francisella tularensis</i> )	Very rare in people but can be widespread in wild animals, particularly rabbits.	Sudden high fever, general weakness and swelling/pain of the lymph nodes.	Rocky Mountain wood tick, American dog tick. Most human infections occur from contact with the blood of infected animals (e.g., while skinning rabbits).

## Current Pests: What Are You Seeing?

### Statewide

#### Arapahoe, Douglas, & Elbert Counties

##### Early August

- Honeylocust spider mite: Populations increase rapidly and cause leaf bronzing.
- Peach tree borer: Second treatment may be of benefit if heavy flights persist. Monitor with pheromone traps.
- Spottedwing drosophila: Adult activity high and ripening berries at high risk
- Aster yellows: Peak period of transmission by infective leafhoppers.
- Tobacco (geranium) budworm: Damage to geraniums and petunias accelerates in August.
- Whiteflies: High populations may be present if infested transplants were used in the garden.
- Grasshoppers: Increased number of adults present; migrations to gardens accelerate.
- Cane borers in raspberries: Wilting symptoms are not most evident at this time of year due to cane boring insects.
- Yellowjackets: Nest size and nuisance problems greatly increase over the next month

##### Late August

- Cluster flies: Flies begin to move to buildings seeking overwintering shelter. Seal buildings to avoid later problems.
- Yellowjackets: Nest size and nuisance problems accelerate.
- Elm leaf beetle: Feeding injury by the second generation becomes visible.
- Honeylocust spider mite: Populations normally begin to decline.
- Walnut twig beetle: Adult may begin to move to trunk and excavate overwintering chambers. Trunk treatments may be initiated now.

- Potato/tomato psyllid: High populations often occur on tomato in late summer.
- Spottedwing drosophila: Adult activity high and ripening berries at high risk
- Twospotted spider mite: Expect highest populations and greatest injury at this time.
- Grasshoppers: Migrations to gardens accelerate and may peak.

### Denver Metro Area

##### Early August

- Honeylocust spider mite: Populations increase rapidly and cause leaf bronzing.
- Peach tree borer: Second treatment may be of benefit if heavy flights persist. Monitor with pheromone traps.
- Ips beetles: Reproduction and adult flight may reoccur throughout the season. Reapplication of preventive insecticides may be necessary in high risk sites.
- Aster yellows: Peak period of transmission by infective leafhoppers.
- Tobacco budworm: Damage to geraniums and petunias accelerates in August.
- Whiteflies: High populations may be present if infested transplants were used in the garden.
- Cane borers in raspberries: Wilting symptoms are most evident at this time of year due to cane boring insects.
- Spottedwing drosophila: Adult numbers high and ripening berry crops are at high risk.
- Yellowjackets: Nest size and nuisance problems greatly increase over the next month.

##### Late August

- Cluster flies: Flies begin to move to buildings seeking overwintering shelter. Seal buildings to avoid later problems.
- Yellowjackets: Nest size and nuisance problems accelerate.
- Elm leaf beetle: Feeding injury by the second generation becomes visible.
- Honeylocust spider mite: Populations normally decline.

- Dagger moth: Larvae feed on maple leaves and clip petioles.
- Zimmerman pine moth: Adult emergence, egg laying and egg hatch are expected to occur. First treatment opportunity.
- Kermes scale on oak: Insects are developing rapidly and flagging of infested twigs begins to be visible.
- European elm scale: Yellowed foliage (scale flagging) symptoms begin to occur on heavily infested branches.
- Walnut twig beetle: Adults begin to move into trunks and excavate overwintering chambers.
- Corn rootworms: Adults concentrate on late planted sweet corn and clip silks.
- Potato/tomato psyllid: High populations often occur on tomato in late summer.
- Twospotted spider mite: Expect highest populations and greatest injury at this time.
- Tobacco budworm: Peak injury to flowers
- Spottedwing drosophila: Adult numbers high and ripening berry crops are at high risk.
- Japanese beetle: Larvae develop quickly and feed on roots of turfgrass; adult numbers in decline

### Eastern Plains Counties

#### Early August

- Honeylocust spider mite:Populations increase rapidly and cause leaf bronzing.
- Peach tree borer:Second treatment may be of benefit if heavy flights persist. Monitor with pheromone traps.
- Fall webworm: Peak feeding often occurs at this time.
- White grubs: Egg hatch and initiation of injury by annualwhite grubs. Optimal treatment timing for these species.
- Aster yellows:Peak period of transmission by infective leafhoppers.
- Whiteflies:High populations may be present if infested transplants were used in the garden.
- Cane borers in raspberries:Wilting symptoms are not most evident at this time of year due to cane boring insects.

- Grasshoppers: As grasshoppers mature and vegetation dries out migration into yards intensifies greatly.
- Squash bugs: Peak injury occurs at this time.
- Yellowjackets: Nest size and nuisance problems greatly increase over the next month.

#### Late August

- Cluster flies: Flies begin to move to buildings seeking overwintering shelter. Seal buildings to avoid later problems.
- Yellowjackets: Nest size and nuisance problems accelerate.
- Elm leaf beetle:Feeding injury by the second generation becomes visible.
- Honeylocust spider mite: Populations normally decline.
- European elm scale: Yellowed foliage (scale flagging) symptoms begin to occur on heavily infested branches.
- White grubs: Damage by annual white grubs accelerates.
- Corn rootworms:Adults concentrate on late planted sweet corn and clip silks.
- Potato/tomato psyllid:High populations often occur on tomato in late summer.
- Twospotted spider mite:Expect highest populations and greatest injury at this time.
- Squash bug:Second generation populations cause serious damage to winter squash and pumpkin

### El Paso & Teller Counties

#### Early August

- Honeylocust spider mite:Populations increase rapidly and cause leaf bronzing.
- Peach tree borer:Second treatment may be of benefit if heavy flights persist. Monitor with pheromone traps.
- Aster yellows:Peak period of transmission by infective leafhoppers.
- Tobacco (geranium) budworm:Damage to geraniums and petunias accelerates in August.
- Whiteflies:High populations may be present if infested transplants were used in the garden.

- Grasshoppers: Increased number of adults present; migrations to gardens accelerate.
- Cane borers in raspberries: Wilting symptoms are not most evident at this time of year due to cane boring insects.
- Yellowjackets: Nest size and nuisance problems greatly increase over the next month.

#### Late August

- Cluster flies: Flies begin to move to buildings seeking overwintering shelter. Seal buildings to avoid later problems.
- Yellowjackets: Nest size and nuisance problems accelerate.
- Elm leaf beetle: Feeding injury by the second generation becomes visible.
- Honeylocust spider mite: Populations normally begin to decline.
- Walnut twig beetle: Adults begin to move to trunk and excavate overwintering chambers. Trunk treatments may be useful at this time.
- Potato/tomato psyllid: High populations often occur on tomato in late summer.
- Twospotted spider mite: Expect highest populations and greatest injury at this time.
- Grasshoppers: Migrations to gardens accelerate and may peak.

#### High Country Areas

##### Early August

- Earwigs: Nuisance problems peak.
- Duff millipedes: Frequent peak of household invasions.
- Honeylocust spider mite: Populations increase rapidly and cause leaf bronzing.
- Peach tree borer: Second treatment may be of benefit if heavy flights persist. Monitor with pheromone traps.
- Aster yellows: Peak period of transmission by infective leafhoppers.
- Whiteflies: High populations may be present if infested transplants were used in the garden.
- Cane borers in raspberries: Wilting symptoms are most evident at this time of year due to cane boring insects.

- Yellowjackets: Nest size and nuisance problems greatly increase over the next month.

##### Late August

- Cluster flies: Flies begin to move to buildings seeking overwintering shelter. Seal buildings to avoid later problems.
- Yellowjackets: Nest size and nuisance problems accelerate.
- Elm leaf beetle: Feeding injury by the second generation becomes visible.
- Honeylocust spider mite: Populations normally begin to decline.
- Pine butterfly: Adult butterflies may be observed to swarm around ponderosa pine following outbreaks.
- Dagger moth: Larvae feed on maple leaves and clip petioles.
- Twospotted spider mite: Expect highest populations and greatest injury at this time.

#### Northern Front Range

##### Early August

- Honeylocust spider mite: Populations increase rapidly and cause leaf bronzing.
- Peach tree borer: Second treatment may be of benefit if heavy flights persist. Monitor with pheromone traps.
- White grubs: Injury by larvae of May/June beetles intensifies. Egg laying and egg hatch by annual white grubs. Optimal treatment time for the latter.
- Aster yellows: Peak period of transmission by infective leafhoppers.
- Whiteflies: High populations may be present if infested transplants were used in the garden.
- Cane borers in raspberries: Wilting symptoms are not most evident at this time of year due to cane boring insects.
- Grasshoppers: As grasshoppers mature and vegetation dries out migration into yards intensifies greatly.
- Yellowjackets: Nest size and nuisance problems greatly increase over the next month.

##### Late August

- Cluster flies: Flies begin to move to buildings seeking overwintering shelter. Seal buildings to avoid later problems.
- Yellowjackets: Nest size and nuisance problems accelerate.
- Elm leaf beetle: Feeding injury by the second generation becomes visible.
- Honeylocust spider mite: Populations normally decline.
- Io moth: Late instar larvae are present. These brightly colored caterpillars possess stinging hairs.
- European elm scale: Yellowed foliage (scale flagging) symptoms begin to occur on heavily infested branches.
- Corn rootworms: Adults concentrate on late planted sweet corn and clip silks.
- Potato/tomato psyllid: High populations often occur on tomato in late summer.
- Twospotted spider mite: Expect highest populations and greatest injury at this time.
- Spottedwing drosophilid: Damage to raspberries and strawberries begins to be observed.

### **Pueblo & Fremont Counties**

#### Early August

- Honeylocust spider mite: Populations increase rapidly and cause leaf bronzing.
- Peach tree borer: Second treatment may be of benefit if heavy flights persist. Monitor with pheromone traps.
- Fall webworm: Peak feeding often occurs at this time.
- Cicadas: Adult singing often peaks.
- White grubs: Egg hatch and initiation of injury by annual white grubs. Optimal treatment time for the latter.
- Aster yellows: Peak period of transmission by infective leafhoppers.
- Whiteflies: High populations may be present if infested transplants were used in the garden.
- Cane borers in raspberries: Wilting symptoms are not most evident at this time of year due to cane boring insects.

- Grasshoppers: As grasshoppers mature and vegetation dries out migration into yards intensifies greatly.
- Squash bugs: Peak injury occurs at this time.
- Yellowjackets: Nest size and nuisance problems greatly increase over the next month.

#### Late August

- Cluster flies: Flies begin to move to buildings seeking overwintering shelter. Seal buildings to avoid later problems.
- Yellowjackets: Nest size and nuisance problems accelerate.
- Elm leaf beetle: Feeding injury by the second generation becomes visible.
- Honeylocust spider mite: Populations normally decline.
- European elm scale: Yellowed foliage (scale flagging) symptoms begin to occur on heavily infested branches.
- Dog day cicadas: Cicada "singing" continues, begins to decline.
- White grubs: Damage by annual white grubs accelerates.
- Corn rootworms: Adults concentrate on late planted sweet corn and clip silks.
- Potato/tomato psyllid: High populations often occur on tomato in late summer.
- Twospotted spider mite: Expect highest populations and greatest injury at this time.
- Squash bug: Second generation populations cause serious damage to winter squash and pumpkin
- Tarantulas: Mature male tarantulas wander in search of mates.

### **Southwestern Counties**

#### Early August

- Earwigs: Nuisance problems peak.
- Duff millipedes: Frequent peak of household invasions.
- Honeylocust spider mite: Populations increase rapidly and cause leaf bronzing.

- Peach tree borer: Second treatment may be of benefit if heavy flights persist. Monitor with pheromone traps.
- Ips beetles: Reapplications of preventive insecticides may be needed on pines in high risk sites
- Whiteflies: High populations may be present if infested transplants were used in the garden.
- Caneborers in raspberries: Wilting symptoms are most evident at this time of year due to cane boring insects.
- Yellowjackets: Nest size and nuisance problems greatly increase over the next month.

#### Late August

- Cluster flies: Flies begin to move to buildings seeking overwintering shelter. Seal buildings to avoid later problems.
- Yellowjackets: Nest size and nuisance problems accelerate.
- Honeylocust spider mite: Populations normally begin to decline.
- Pine butterfly: Adult butterflies may be observed to swarm around ponderosa pine following outbreaks.
- Potato/tomato psyllid: High populations often occur on tomato in late summer.
- Twospotted spider mite: Expect highest populations and greatest injury at this time.

#### Tri-River Counties

##### Early August

- Honeylocust spider mite: Populations increase rapidly and cause leaf bronzing.
- Peach tree borer: Second treatment may be of benefit if heavy flights persist. Monitor with pheromone traps.
- Fall webworm: Peak feeding often occurs at this time.
- Cicadas: Adult singing often peaks.
- White grubs: Egg hatch and initiation of injury by annual white grubs. Optimal treatment time for the latter.
- Whiteflies: High populations may be present if infested transplants were used in the garden.

- Cane borers in raspberries: Wilting symptoms are not most evident at this time of year due to cane boring insects.
- Grape leafhoppers/Zic-zac leafhoppers: Damage accelerates on grape and Virginia creeper.
- Grasshoppers: As grasshoppers mature and vegetation dries out migration into yards intensifies greatly.
- Squash bugs: Peak injury occurs at this time.
- Tobacco (geranium) budworm: Peak injury to susceptible flowers (e.g., geranium, petunia) tends to occur at this time.
- Yellowjackets: Nest size and nuisance problems greatly increase over the next month.

#### Late August

- Cluster flies: Flies begin to move to buildings seeking overwintering shelter. Seal buildings to avoid later problems.
- Yellowjackets: Nest size and nuisance problems accelerate.
- Elm leaf beetle: Feeding injury by the second generation becomes visible.
- Honeylocust spider mite: Populations normally decline.
- White grubs: Damage by annual white grubs accelerates.
- Corn earworm: High levels of injury to corn ears and susceptible fruiting vegetables at this time.
- Whitelined sphinx: In some years large numbers of larvae may be observed migrating across rangeland areas.

Source: [http://bspm.agsci.colostate.edu/outreach-button/insect-information/ \(Yard/Garden Insect Calendars\)](http://bspm.agsci.colostate.edu/outreach-button/insect-information/(Yard/Garden%20Insect%20Calendars))

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Editors: Clyde Wilson, U.S. EPA Region 8; Assefa Gebre-Amlak, CSU Extension; Frank Peairs, CSU Extension; Thia Walker, CEPEP.

Design & layout: Kierra Jewell

“Pest of the month” photo(s): Whitney Cranshaw, CSU Professor & Extension Specialist

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[Assefa.Gebre-Amlak@colostate.edu](mailto:Assefa.Gebre-Amlak@colostate.edu)

(970) 491-2666