

Environmental Health Fact Sheet



Yellowjackets

Insect stings kill about 60 people in the United States each year and are the leading cause of fatalities from venomous animals. Most of these bites are inflicted by yellowjackets. The threat of their sting makes yellowjackets unwelcome intruders wherever people are picnicking, hiking, camping or working outdoors in food service or garbage collection. For people whose hypersensitivity to wasp stings is life-threatening, yellowjackets are among the most dangerous of insects. A small percentage of the population, roughly two million people, are hypersensitive to wasp or bee stings.

Hypersensitive reactions to yellowjacket stings include itching, flushing, hives, and excessive swelling. Swelling of the tongue or air passageways can cause wheezing, choking, and shortness of breath. Other reactions include hypotension (low blood pressure) with dizziness, unconsciousness, cyanosis (blueness), nausea, vomiting, chest pain, headache, and abdominal cramps. These symptoms may begin in a matter of seconds or up to 30 minutes afterwards, and they can last for hours.

If you are not hypersensitive to bee or wasp venom and you are stung, examine the site of the sting first to determine whether you have been stung by a yellowjacket or a bee. A yellowjacket does not have a barbed stinger that remains in the skin; whereas, a bee leaves a stinger. If you see a stinger, do not grab or pinch it with your fingers. This would inject more venom. Use an object that is thin and flat to gently scrape the stinger out. Non-hypersensitive individuals will experience localized pain, itching, redness, and swelling for a few minutes to a few hours after a yellowjacket or bee sting.

Treatment

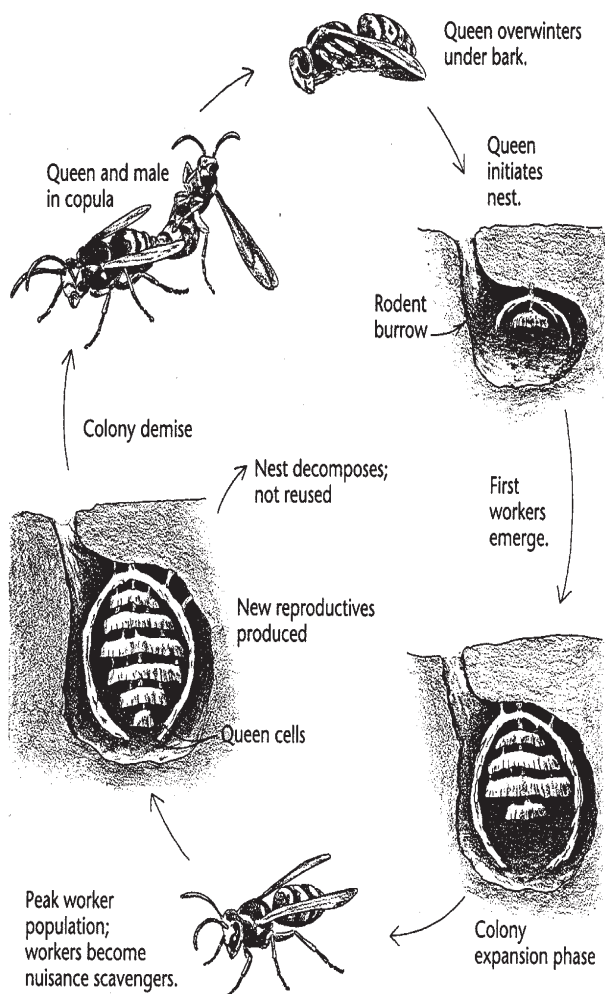
Wash the area of the sting with soap and water to remove any venom and dirt from the surface of the wound. The most common treatments are ice, cold packs, and commercially available sprays, swabs, and creams. Home remedies such as meat tenderizer, which contains enzymes that destroy the proteins in venom (wet the powder and apply to the sting), or deodorants with antiperspirant can be used.

- If you have been stung, rest and don't drink alcohol.
- If the sting is to a limb and the limb swells, lower the limb below your body trunk.
- If the sting is to your throat or mouth, seek medical attention immediately, because swelling in these areas can cause suffocation.
- If the sting is followed by the severe symptoms described for hypersensitive persons, seek immediate medical attention.



Identification

Yellowjackets are colorful members of the wasp family, about 1/2 inch (13mm) long, and appearing short and stout. All yellowjackets are yellow and black or white and black. They are rapid fliers, aggressive, and capable of biting and inflicting multiple stings. Yellowjackets are social insects and live in large colonies, which they defend vigorously. Yellowjacket species can be divided into two groups, the *Vespula rufa* group and the *Vespula vulgaris* group. Yellowjackets in the *rufo* group only forage for live prey, whereas those in the *vulgaris* group also scavenge around animal carcasses, picnic tables, and garbage cans. Currently there is no known association with disease transmission and yellowjackets.



The life cycle of the Yellowjacket begins with an overwintering queen. In the spring, the queen digs a cavity in the soil or enlarges an existing hole such as a rodent burrow, constructs a nest from chewed cellulose (wood) fibers, and lays a dozen or so eggs. As the new young emerge the queen feeds them until they mature into workers and can forage for themselves. After this, the queen specializes in egg production while the workers feed her and care for the larvae and pupae. The colony then expands rapidly and, depending on food availability and species, may total up to 4000 workers when maximum size is attained in late summer. At this point, new males and queens are produced, mate, the males and workers die, and the fertilized queens seek a sheltered place such as old stumps, hollow logs, or loose bark to overwinter.

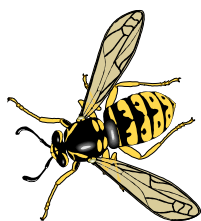
Sting Prevention

It is important to be able to distinguish yellowjackets from other wasps, bees, and non-stinging syrphid flies. Bees are widely known as extremely valuable pollinators, and we often make an effort not to harm them. Unfortunately, when people cannot tell them apart from the more aggressive and potentially harmful insect relatives, unnecessary destruction of critically necessary wildlife takes place. It is important for people to learn how to protect themselves against yellowjackets and to decrease the likelihood of hazardous encounters while also preserving the insects themselves.

To prevent stings from yellowjackets, avoid the following:

- ▶ Wearing perfumes and other scents, including scented hair spray, suntan lotion, cosmetics, deodorants, and shaving lotions.
- ▶ Wearing brightly colored clothing
- ▶ Going barefoot, especially in vegetation
- ▶ Swatting at or squashing yellowjackets. Squashing a yellowjacket releases a chemical alarm that signals other wasps and yellowjackets in the area to attack.
- ▶ Drinking soft drinks from open containers. Use a lid with a straw.
- ▶ Carrying sugary or meat snacks in open containers.
- ▶ Sitting down on or handling wet towels, washcloths, or clothes, without first checking to make sure no yellowjackets are drinking the moisture.
- ▶ Cooking and eating outdoors during yellowjacket season.

Yellowjackets will not sting or bite a person at rest if they have not been disturbed by some agitation of their nest or threatened by swatting or fast movements. They may land on your skin to inspect scent or get water if you are wet, but they will leave if you stay calm and don't panic. You can brush them off gently with a piece of paper as long as you move slowly and deliberately.



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Yellowjacket Management

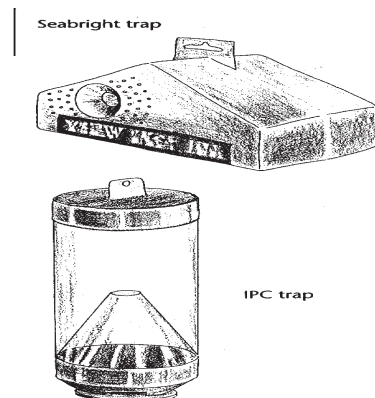
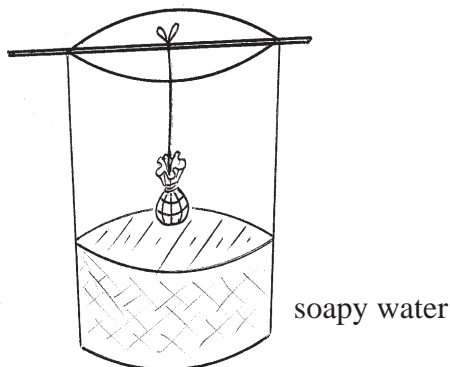
The objective of a yellowjacket management program is to reduce human encounters with wasps without eliminating them because of their beneficial role in suppressing pest insects. Using an Integrated Pest Management Strategy (IPM) the most effective yet least environmentally destructive control methods are: 1) Habitat Management, to reduce yellowjacket access to food in the vicinity of human activity, and 2) Physical Controls, such as trapping and nest removal. In addition to the above IPM strategies, Biological Controls and Professional Chemical Controls can be employed.

Habitat Management

Human generated food sources for yellowjackets (proteins and sugars) must be reduced or eliminated. The most significant human source of food for yellowjackets is garbage (food waste). Make sure garbage cans have proper sealing lids, and increase the frequency of garbage pickup. Use disposable liners or wash cans frequently, being sure to clean food wastes that adhere to it. Protect garbage cans from scattering by dogs and other pests and keep the area around the cans clean. Moist pet foods left outside are a yellowjacket food source. Pets should be fed indoors, or in a screened enclosure. Picnic foods and sugar based soft drinks will attract yellowjackets. Keep foods stored in air tight containers before and after meals when eating outdoors and make sure any spills are promptly cleaned. Sugary liquids give off an aroma that attract yellowjackets, and there is a danger of accidentally drinking one in. Keep soft drinks in a covered container and use a straw. Inspect your drink and warn children to look into cups or pop cans before each sip.

Trapping

Trapping can be accomplished by purchasing commercially available plastic traps or by a variety of designs, such as homemade cone traps or bait over bucket traps (see illustrations). Baits are very important in the overall effectiveness of yellowjacket traps. Types of baits used are canned dog or cat food, ham, fish, and other meat scraps, or, toward the end of the warm weather, sugar syrups, spoiled fruit and jelly.



Nest Removal

You can destroy a nest by physically removing it or by using a pesticide. Extreme caution is advised because any disturbance around a nest can trigger a mass attack. Professional help through a licensed pest control agent is strongly recommended.

Vacuuming

Vacuuming can be effective where nests occur in wall voids or in environmentally sensitive areas where nests should not be treated with insecticides. This method of control should be performed by a professional pest control agent.

Biological Controls

Natural wildlife such as skunks, raccoons, and badgers help control yellowjackets by preying on their nests, primarily for the honey. If a ground nest is located in a park or undeveloped areas, wait until late in the evening when wasps are least active and carefully drip honey around the entrance holes. This will instigate a dig and destroy by these animals. Also, yellowjacket baits containing predatory nematodes are commercially available and provide an effective alternative to poison baits in specific circumstances.

Chemical Controls

When an insecticide is considered necessary for the control of yellowjackets, the best approach is to contact a licensed pest control company. If you attempt to chemically control yellowjackets with commercially available insecticides, the most effective method is nest application. Anyone applying insecticides should research proper technique and use special protective clothing and equipment that will protect against the chemical as well as against the wasp. Follow specific manufacturer's instructions for proper use of the insecticide. Observe the nest area during daylight for the primary entrance location and any secondary openings. Application of insecticides in the late evenings when most wasps have returned will increase effectiveness.

Baiting utilizes the same attractants used in trapping but includes a nonrepellent insecticide. Foraging wasps carry the poisoned bait back to their nests. When enough of the poison is eaten by their nest mates, including the queen and larvae, the colony dies. Precautions and control is essential when using baits because as a consumable poison they can be a hazard to children and pets or eaten by non target insects.

