



Insect Answers:

Protecting Honeybees Against Yellowjackets

WASHINGTON STATE UNIVERSITY EXTENSION FACT SHEET • FS017E

Yellowjackets are usually considered beneficial insects because they kill many pest insects and feed them to their larvae. However, some species, such as the western yellowjacket (*Paravespula pensylvanica*), the common yellowjacket (*P. vulgaris*), and the German yellowjacket (*P. germanica*), can attack honeybee adults and larvae. A typical yellowjacket worker is about 1/2-inch long. Coloration is yellow and black or white and black.

Yellowjacket Life Cycle

Yellowjackets have annual colonies. Inseminated queens overwinter in protected locations. They emerge from late March through May, select a nest site, and build a small paper nest in which they lay their eggs. Yellowjacket species build nests below the soil in mouse burrows or in similar sites, also between walls or in the attics of houses. Worker yellowjackets rear and feed the brood and also forage for food. The queen remains inside the nest laying eggs. Colonies expand rapidly and may total up to 5,000 workers when maximum size is attained in August or September. In the fall, inseminated

queens seek sheltered spots for overwintering.

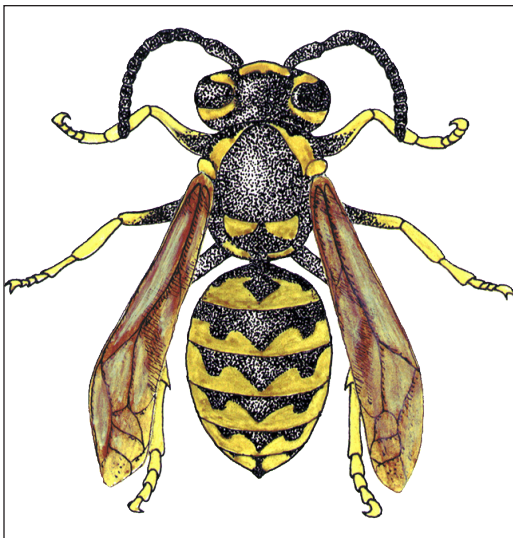
Yellowjackets eat bee brood, rob honey, and sometimes kill the queen or the colony. Weak colonies are especially susceptible. In general, yellowjackets become pests of honeybees in late summer through fall and are more serious pests in dry years. In some areas, such as on the Kitsap Peninsula, they almost seem to outnumber honeybees.

The following options can be used to reduce the damage of yellowjackets to honeybees.

- Locate yellowjacket nest and treat with an insecticide
- Place bait or attractant traps around the apiary
- Reduce the size of honeybee colony entrance
- Move honeybee colonies to a new location

Locate Yellowjacket Nest, Treat with Insecticide

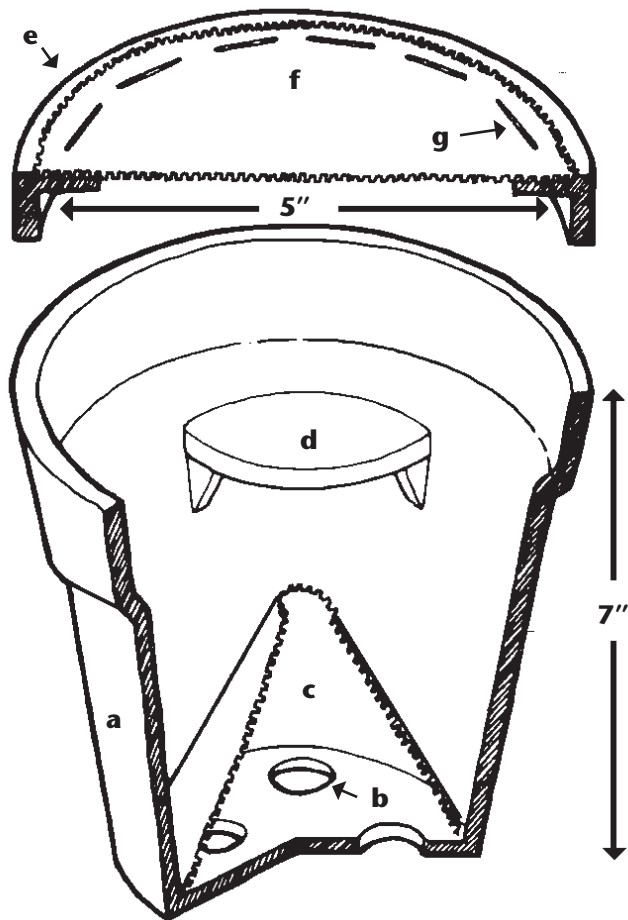
Yellowjackets do not forage very far. Usually the nest(s) will be within 1100 feet of the apiary. Flying yellowjackets can be tracked to their nests in early



Typical western yellowjacket worker



Dilly anti-yellowjacket screen.



*Cutaway view of cone trap. a) plastic container with approximate dimensions; b) entry holes on bottom—about $\frac{5}{16}$ -inch in diameter; c) window screen cone with $\frac{5}{16}$ -inch hole at tip, set on bottom of plastic container to cover entry holes; d) meat platform—may be plastic or $\frac{1}{4}$ -inch plywood, either glued or slotted to inner wall of the container; e) lid with center cut out accommodates screen insert, allowing meat odor to circulate; f) screen insert; g) staple to secure lid screen to lid frame lip. Yellowjackets enter through holes in container bottom, continue through the hole in the screen cone, and take the meat, then are unable to escape. The unit may be hung with wires or string, or held up with a metal hoop. Replace the meat bait **daily**, or it will lose its attractiveness. When doing this, gently remove the unit and place it in a freezer for several hours to kill the yellowjackets. Dispose of the workers, replace the meat bait, and return the unit to its station.*

morning or at dusk when few other insects are flying. Yellowjackets dusted with flour or powdered sugar are easier to follow. When you find nests, spray the entrance hole with a registered insecticide, and do not plug the hole. Returning foragers will then enter the nest to be killed by the insecticide residue. Apply treatment after dark.

Registered products can be found at Washington State University Extension's PestSense web site: <http://pep.wsu.edu/pestsense>.

Place Bait or Attractant Traps around the Apiary

Heptyl butyrate traps placed around the bee yard will catch many yellowjackets. These traps are available commercially as the Jacket Trap®.

For an effective trapping method, hang a fish on a string just over a bucket or can of water with detergent added. The yellowjackets will try to fly away with pieces of fish that are too heavy and will fall into the water. The detergent acts as a wetting agent, trapping wasps, which then drown.

Yellowjackets can be baited into traps that do not have a toxicant. White soda pop bottles with a thin sugar syrup in the bottom—too thin to attract bees—will catch many yellowjackets. Or, use narrow neck gallon jars with honey in them. Honeybees can get out, but yellowjackets usually do not.

Setting and baiting cone traps daily with fresh meat (horse meat, ham, beef) will reduce yellowjacket numbers. Yellowjackets enter through holes in the container and take the meat, but are not able to escape from the cone trap.

Reduce Honeybee Colony Entrance

Beekeepers can reduce damage from yellowjackets by using screens to reduce entrances. This method gives guard bees a better chance to protect the colony. Screens allow ventilation. Galvanized window screen stapled over the hive entrance with about a 2-inch opening in the center works fine (Dilly Anti-Yellowjacket Screen). Anti-robbing screens, tuck in screens with a 2-inch opening, or reversed Miller entrances also work. Be sure to screen any other holes in the hive bodies. In western Washington, place entrance reducers on colonies about mid-August.

Move Honeybee Colonies to a New Location

As a final option, move all hives to a site with few or no yellowjackets. However, in some years and in parts of the Northwest, such sites may be difficult to find.



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Use pesticides with care. Apply them only to plants, animals, or sites as listed on the label. When mixing and applying pesticides, follow all label precautions to protect yourself and others around you. It is a violation of the law to disregard label directions. If pesticides are spilled on skin or clothing, remove clothing and wash skin thoroughly. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock.

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