Mid-Atlantic Apicultural Research & Extension Consortium

MAAREC

Delaware, Maryland, New Jersey, Pennsylvania, West Virginia and the USDA cooperating

STINGING INSECT CONTROL

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Bees are hairy flower visitors that use nectar and pollen as food. Honey bees are golden or yellow-brown in color. The natural nesting site of the honey bee is a sheltered, darkened enclosure. In addition to the hives of beekeepers, "wild" or "escaped" bee colonies nest in tree hollows or between the wall studs of buildings, within attics or in porch roofs. Homeowners also may encounter honey bee swarms, consisting of a mass of worker bees and a queen, that have clustered at an exposed location. Swarms are temporary; they may stay a few hours or a few days. Swarms should be left undisturbed; however, a colony nesting in a tree or building may need to be removed.

Bumble bees are another kind of bee that may need to be controlled. Bumble bees are large, hairy black and yellow colored insects. Though bumble bees are primarily ground nesters, they will occasionally nest in debris, such as old dressers, little-used equipment stored outside or similar protected sites. Control may be difficult since getting an insecticide to the actual nest location (versus the nest opening) may present a problem. Bumble bees can sting if the nest is disturbed and care must be exercised.

Carpenter bees bore holes in wood. They resemble bumble bees; the abdomen is less hairy and a metallic blue-black in color. The males are territorial and can be very belligerent; however, like males of all bees and wasps, they can't sting. Carpenter bees are most active in spring. They often are seen flying erratically near the eves and gables of buildings. Porches, garages, shed ceilings, railings, roof overhangs and outdoor wooden furniture are also common nesting sites. While the damage from a single bee is slight, the activities of many carpenter bees over a period of years can cause structural damage.

Other bees like sweat bees, mining bees, leaf cutter bees and parasitic bees may be encountered occasionally. Females can sting but seldom do. Mining bees can be abundant locally because of their nest aggregation behavior; hundreds may nest in one area if soil conditions are right.

BEES LIKE FLOWERING PLANTS

There is no effective method to keep bees from flowering plants. Some flowers are unattractive to bees, such as tulips and roses while other flowers, like azalea, lilac and honeysuckle attract only the large, longer-tongued bees like bumble or carpenter bees. Those fearful of bees or who are allergic to their sting should cultivate plants with less attractive bloom.

WASPS

Wasps are the most serious stinging insect problem to humans and are the most likely to use their sting. Unlike honey bees, wasps do not die after they sting. Wasps are less hairy. The young larvae eat fresh meat in the form of cut up spiders, flies, bees or caterpillars. Few visit flowers unless they are hunting for flower-visiting insects.

Yellowjackets are the fiercest and the insect most likely to sting. Yellowjackets are sleek, yellow and black insects that fly extremely well. Most nest in the ground, but a wall void nesting yellowjacket species, *Vespula germanica*, introduced from Europe, has increased in numbers in recent years and has become a serious problem at parks and backyards where it scavenges for food.

Yellowjacket workers present a major stinging pest problem because their stings cause pain, swelling and discomfort, and they tend to nest in and around humans. They are scavengers that are attracted to garbage cans, trash areas and frequent areas where sugary fluids are.

Hornets are aerial nesters and like their relatives the yellowjackets, make nests of paper. They are longer than yellowjackets and either yellow and black or, in our most common hornet, white and black in color. The nests, which can reach basketball size by summer's end, are located in trees, shrubs and sometimes on buildings. Since the nests grow in size with the season, they often are not discovered until the foliage thins in the fall, well after the hornets are dead. The European hornet, *Vespa crabo*, is the largest of the hornets, it usually nests inside tree hollows.

Paper wasps are thin with shiny, dark-brown or brown and yellow markings. They have long antennae and legs and a pronounced wasp-waist between front and rear portions of the body. These wasps build exposed nests of paper cells under the overhang of buildings, in unused equipment or debris of humans. Occasionally they build in trees or shrubs. They seldom sting unless disturbed and tend not to be scavengers.

Other wasps, such as Cicada killer wasps, spider wasps and parasitic wasps are beneficial. Efficient prey hunters, that help keep spiders, caterpillars, cicadas and many other pest insects in check. A parasitic wasp is the main enemy of the Mexican bean beetle that attacks soybeans. These wasps, natural and imported, are important in the battle against beetle and moth pests.

STINGING INSECT CONTROL

Stinging bees and wasps present a challenge in efficient and effective control. Control methods at sites where the stinging insect is most likely to be pestiferous may not be available. First, the stinging insect pest must be identified correctly and its nest located before control measures are used. Then the nest can be quickly and effectively eliminated to avoid situations in which people may be stung.

Tree/wall void nest control - Whether in a tree or side of a building, honey bee, bumble bee or yellowjacket nests are difficult to eliminate because there are so many adults present. The actual nest may be some distance from the entry/exit area itself. Do not attempt to expose the nest, however, until all, or nearly all, of the adult population are killed.

Spray or dust an insecticide into the entry/exit area. In most cases repeat application of the insecticide will be necessary. For some sites, it is better to apply the spray after dark to avoid being stung by returning foragers or nest members that respond to any disturbance. Nests can be left to scavenger insects. For wall-void honey bee nests, expose the wax comb with its honey and remove it to prevent fermentation of the honey and the odor it causes. This also diminishes the chance the honey will run on walls or ceilings.

Nest entry/exit areas should be caulked or otherwise closed to avoid reuse of the same site. No part of any nest is reused, but the site itself may still be attractive for a queen to start a new nest the following season. Do not close/seal off entrance until insects have been killed.

Control of aerial nests - Aerial hornet or paper wasp nests (and the occasional bee swarm or honey bee nests) can be eliminated by spraying an insecticide directly into or onto the nest itself. Special aerosols designed to shoot a stream eight or more feet are sold especially for the aerial nests. Apply the spray after dark to avoid the possibility of being stung. If activity persists, repeat the spray another evening. For round, softball- to basketball-sized hornet nests, direct the spray into the single, small opening near the bottom of the nest.

When the population is killed, leave the nest in place or put it in a trash bag and discard. If you want the nest for a unique display, allow the nest to air-dry thoroughly in a place rodents, birds or squirrels won't destroy it until the odor has disappeared. No nests or portions of a nest are reused by wasps a second season.

Control of ground nests - Ground nests of bumble bees or yellowjackets contain several to hundreds of workers. Like the wall-void nesting site, the actual nest itself may be some distance from the entry/exit site. Spray or dust the access area with an insecticide and repeat until activity ceases. There is no need to remove the nest, it will not be reused.

If a ground bee or wasp chooses a nest site that is inconvenient, reduce their numbers by spraying the ground area where their tunnels are visible. Then disrupt the soil surface with a rake or hoe and spray again. As the bees or wasps attempt to repair the damage or dig new tunnels, they ingest the insecticide. Often repeat applications the next season are required.

Choice of insecticide - Aerosol insecticides are sold that are especially useful for killing aerial bee and wasp nests. The can is designed to shoot a stream of insecticide eight feet or farther. Though this product can be used on ground nests or nests in structures, it is less effective. Insecticides labeled for ground insect control can be substituted. For occasional stinging insects inside the house, a flying insect aerosol or fly swatter can be used but be careful to avoid being stung.

MAAREC, the Mid-Atlantic Apiculture Research and Extension Consortium, is an official activity of five land grant universities and the U. S. Department of Agriculture. The following are cooperating members:

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Participants in MAAREC also include state beekeeper associations, and State Departments of Agriculture from Delaware, Maryland, New Jersey, Pennsylvania and West Virginia.

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