



GREEN TIPS

Department of Horticulture - Michigan State University

SOCIAL WASPS

There are many species of wasps (yellow-jackets, paper wasps, hornets, mud daubers, spider wasps and cicada killers) and all are beneficial by virtue of their predatory habits. However, since these insects can sting, they can cause a considerable nuisance.

Wasps can be divided into two groups, based on their habits. Social wasps construct small to large-sized grey, paper nests containing 20 to 1500 individuals. On the other hand, solitary wasps are not colonial and nest in the ground or in tubular mud nests.

All social wasps develop similarly. Colonies of these wasps contain three types (castes) of individuals - workers, queens and males. The workers and queens are females. While workers are sterile (non-reproductive) individuals responsible for nest construction, food gathering and defense. The queens are fertile females that lay the eggs.

In the fall new queens and males leave their nests and mate. The males die shortly after mating, but the mated queens overwinter in sheltered locations outdoors or in buildings. All the workers die when the fall frosts hit. Nests are annual and abandoned at the end of the season. In the spring, the mated females emerge from hibernation, seek a suitable nest site and construct a small nest. The nest is made of a paper-like substance manufactured from saliva and chewed plant fibers (wood and bark). The queen cares for the first brood (the young must be fed by the adults). All of the first brood develop into workers and they take charge of nest life. The queen resumes egg laying to produce additional broods. By late summer the colony reaches full size, and this is the time when most nuisance problems are reported. Near the end of the season a brood of new queens is produced.

Source: MSU Oakland County Extension Bulletin

Three species of social wasps are generally encountered. The yellow-jackets and bald-face "hornet" (actually a yellow-jacket) are easily recognized by the bold black and yellow black and white markings. The medium to large grey, paper nests may be located in trees and shrubs, in the ground or in natural or artificial cavities. Colonies may contain 800 to 5000 individuals. The paper wasps are uniform reddish-brown in color and they have long, gangly legs. The nests are constructed of grayish paper (they resemble a small honeycomb) and are frequently attached to rafters, eaves and other overhangs in houses, garages and sheds. Colonies contain 20 to 75 individuals.

Control of Social Wasps

When controlling troublesome social wasps, you should first study the situation thoroughly before initiating any controls. Learn all you can about the nest location and be prepared for the night time extermination (for example, mark ground nests). All treatments **MUST** be done late at night, or in the pre-dawn hours, when most of the wasps are in the nest, and when it is cool, preferably less than 60 degrees F. Wear protective clothing consisting of a hat (with bee veil if possible); long sleeve shirt (with cuffs and collar buttoned); gloves (inside cuffs); long trousers and boots (with cuffs over boots and secured with elastic bands). Use a flashlight covered with red cellophane for lighting. All other lights in the area should be shut off, except for a single white light set up nearby to attract escaping workers, which can be killed after the control treatment. Be sure to read and follow all label instructions before using any insecticide.

The large aerial nests of grey paper constructed by the bald-faced hornet, a potentially aggressive species, must be treated using a great deal of caution. Purchase one of the specially formulated "wasp and hornet" aerosol sprays. Note, these products contain "knock down" ingredients that will quickly stop aggressive insects. Other insecticides may lack this trait and will kill more slowly. Begin the treatment by directing the spray at the next entrance, which is usually located near the lower apex of the nest, and at any other openings in the paper envelope to kill any guard wasps. Then thoroughly soak the rest of the nest. Since these cans can dispense in a short period of time, have a second can handy to defend yourself. Treat again the following night if some wasps persist.

Cavity nests are most difficult to control because the nest may be located a considerable distance from the entrance hole. Cavity nests may be located in tree holes or in wall voids and attics. This makes it difficult to treat the nest without filling the house with displaced wasps. Direct an appropriate insecticide into the entrance hole and thoroughly saturate the cavity (aerosol wasp and hornet sprays work best). After treating, plug the hole with a small piece of steel wool dusted with a suitably labeled insecticide. Workers returning to the nest the following morning will chew on the steel wool and die. Also, you may control the wasps by allowing them to track

an insecticide into the nest as they come and go. A properly labeled dust formulation works well. DO NOT plug the hole until you are certain that all the wasps are dead.

Many species of yellow-jackets nest in the ground. These types of nests are easily controlled by applying a properly labeled insecticide in the entrance hole and then immediately covering the hole with a small amount of moist soil.

There are no effective controls for the troublesome foraging workers you may encounter in the late summer and early fall. All control is done by nest eradication. If you have problems with foraging workers, and you can not locate the nest or have eradicated all local nests (foragers will fly a mile or more in search of food), then you must take steps to reduce human-wasp encounters.

Sanitation is very important since wasps are attracted to human food and refuse. Therefore, keep all food covered, cleanup all spills and keep refuse in tightly sealed trash containers. Several companies currently supply traps for wasps and yellow-jackets. These devices may be helpful in reducing nuisance problems. Be sure to follow label directions.

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