

EUROPEAN HORNET IN KENTUCKY

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The European hornet, *Vespa crabro germana*, has become almost commonplace in Kentucky. Where the European hornet overlaps living area with humans, the competition for control of that area becomes very heated. This publication is intended to help you know and understand this insect before you attempt to deal with it.

The European hornet was introduced into the United States at New York between 1840 and 1860. Since that time, it has spread and inhabits portions of all states east of the Mississippi River plus several on the western bank. Until 1984, its known distribution in Kentucky was limited to south central and southeastern counties. However, in 1984, county records were obtained from the Tennessee River to the Big Sandy River.

The European hornet is a woodland species, usually building its nest in hollow trees. However, nests also can be found in barns, attics, hollow walls, and abandoned bee hives. Those built in unprotected places are covered with a brown envelope (paper) composed of chewed plant fibers. The brown color will help distinguish it from the more common gray nests of aerial nesting yellow jackets (also called baldfaced or black hornets).



European hornet nests are large but this is partly because the insect is so large. A mature colony will contain 1500 to 3000 cells in 6 to 9 combs. There will usually be 200 to 400 workers present during the peak population.

The life cycle of the European hornet is like that of yellow jackets. Each spring, foundation queens come out of hiding and look for nesting sites. Limited observations indicate that this happens in early May in west Kentucky. The queen begins the nest and lays some eggs. While the first generation is growing and maturing, the

queen enlarges the nest, hunts for food and cares for the larvae (called grubs). When the grubs become adults, they take over housekeeping, nest expansion, hunting and care of the grubs. The activity of the queen during the rest of the season is limited to laying eggs. The nest will continue to grow in size as the number of hornets increases. About mid-July, production of sexually active males and females begins. Until this time, only non-reproductive females are produced. Mating occurs and the reproductive and inseminated "overwintering queens" go into hiding until the next spring. European hornets come into conflict with man in several ways. Basically, problems arise when the hornet tries to utilize space or resources that humans are using. This is really a competition for resources between man and insect.

The most common problems are as follows:

- Nest located too close to house or other structure utilized by humans.
- Hornets hunting in human use area.
- Hornets attracted to lights.
- Hornets stripping bark from ornamental plants.
- Hornets eating tree fruits.
- Hornets raiding domestic honeybee hives.

The first three problems listed result from humans not wanting to share a living area with a stinging insect. The last three are actual destruction of desirable property. Ornamental plants can be protected from wasp injury by spraying the bark with Sevin™. However, relief from both types of problems can be accomplished by only one method - nest destruction.

Before anyone tries to control a European hornet problem, they would be wise to stop, think and plan very carefully. Remember, you may be encountering a nest of 400 hornets that can sting repeatedly, will fly at night, have guards at the nest entrance, may have more than one entrance to the nest, and may have nested almost anywhere.

If a nest is located, it can be treated with a pressurized wasp and hornet jet spray. Several brands are available, but they all are about equal in effectiveness. Although the knock-down is quick, it may not be quick enough if you are too near the nest or do not take other

precautions.

It is best to treat at night with the aid of a flashlight. Prop the light on something and aim it at the nest or nest opening. When you begin to spray, the wasps usually will attack the light rather than the source of the spray. Wear heavy clothing and a bee veil, if available, to protect yourself from any wasps that may not be fooled by the light.