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Several types of stinging wasps, bees and hornets can be problems in and around the home. The public is encouraged to conserve pollinators, many of which are bees and wasps, but some are stinging insects and pose a serious risk to people and pets. They build their nests in wall voids, in the ground, in trees or on buildings. In Vermont, most of these stinging insects die from the cold winter temperatures, and can be allowed to remain. However, if a nest is located where people or pets might come in contact with the inhabitants, it may be best to eliminate it. Most stinging bees, hornets and wasps are social insects, living in colonies. A colony starts with the queen, and over the summer, the number of individuals increases. Therefore, it is best to get rid of the colony as early in the season as possible. Before treating the colony, get the insects identified by taking a picture of them as they enter the nest, and send it to the Master Gardener Program (<https://www.uvm.edu/extension/mastergardener/help-line>) to verify that it is an aggressive, stinging species.

When you decide a colony should be treated, decide if you can do it yourself. If it is in a hard-to-reach location, it may be safer to call an exterminator, who has protective equipment to avoid getting stung. If you know you are allergic to bee or wasp stings, do not deal with the nest yourself. Call an exterminator or someone who is not allergic. Get several estimates from exterminators before choosing one. If you want to do it yourself, below are some general tips to follow.

What to use:

There are many insecticide products labeled specifically to kill wasps and hornets. For most situations, the easiest type to use is an aerosol. There are two general kinds of aerosol, one that foams up when you spray it, and the other has a slender nozzle extender tube that you attach so you can remain at a distance when spraying it (check here for a product review: <https://www.nytimes.com/wirecutter/reviews/best-hornet-wasp-spray/>). These products are specifically formulated to kill hornets or wasps quickly, which reduces your chance of getting stung. It is best to select a product that lists pyrethroid compounds as active ingredients, such as tetramethrin and or sumithrin. Before you make an application of any pesticide, read the label and follow the instructions carefully. There are products with various naturally-derived compounds, such as peppermint or cedarwood oil. I can't vouch for their efficacy. Do not spray gasoline or other petroleum products at the nest. These are toxic to the environment and you, and it is against the law.

What to wear:

If possible, have someone else present when you make an application so that they can call for help in an emergency. Wear a dark-colored long-sleeved shirt and pants. Put socks over your pant legs and gloves over your shirt sleeves to ensure they can't crawl up your leg or arm. If you have access to bee keeping clothing, wear them. If you have a bee smoker, you could use that to sedate them. It is wise to wear rubber gloves and a mask, even if that is not mentioned on the pesticide label. Make sure there are no obstructions around the nest (chairs, rocks, etc.), you could trip on, if you need to escape quickly.



Eastern yellow jacket, *Vespula maculifrons* (top); bald-faced hornet, *Dolichovespula maculate* (bottom).

When to spray:

Spray the nest in the late evening just before dark. Most of the colony inhabitants have returned to the nest by then, but you can still see well enough to aim the spray in the right place. You can also spray it very early in the morning before they have left the nest to forage. Select a cool day if possible because bees and wasps are less active at lower temperatures. Do not spray when it is windy as it can blow into your face or on you. Do not spray when it is raining, and don't allow the spray to enter a body of water (brook, pond, stream, etc.). These insecticides can be toxic to fish and other water-dwelling organisms. The number of individuals in a colony increases over time and wasps and hornets become more aggressive and defensive as the season progresses. Therefore, it is best to treat the nest early in the season.

How to spray:

Read the product label before spraying and follow the instructions completely. Check where the nozzle opening is and direct the spray away from yourself or others. If you are spraying on the house, it may be wise to spray a small area to ensure the product doesn't damage the siding. Most products are designed to disperse the insecticide for a distance of 10-20 ft. Therefore, it is best to stand as far away as you can and still apply the pesticide to the colony entrance. Aim the insecticide spray directly at the entry hole of the nest. You may also want to spray around the hole because wasps entering or exiting will come in contact with the insecticide and usually die. Spray the nest for 5-10 seconds and then walk away. Don't run. Do not turn on lights, shine a flashlight or turn on head lights of a car around the nest because wasps will be attracted to the light. If the entrance to the colony is impossible to access because it is hidden behind the wall, foaming products may be effective at getting into the area where the insects enter. However, multiple sprays may be needed over several days to kill them.

If you are treating a nest within a wall void, be aware that the spray may drive the insects out and into the house. Watch out for an influx of wasps in the home.

How to evaluate success:

Check the area around the nest on a warm sunny day for 3-5 days after spraying for signs of activity. If you don't see any bees or wasps entering, it is likely they have been killed. However, you may notice there are a few still alive, which will require you to spray it again.

How to remove the nest:

If the nest is outside, there is no need to remove it. It will decompose naturally over the winter. However, if you want it gone, when there has been no sign of wasp/hornet activity for at least 1 week, it is probably safe to remove the nest. Pyrethroid pesticides breakdown quickly in sunlight and rain. Therefore, touching it one week after treatment is likely not a hazard. To be on the safe side wear gloves when removing the nest. If the nest was in a wall void, you may need to extract it. Old wasp nests can attract mice and dermestid beetles, which feed on the dead insects, and could infest the home.



Spraying from a distance in a wall void.

Useful websites:

- <https://content.ces.ncsu.edu/controlling-bald-faced-hornets-and-yellow-jackets-in-and-around-structures>
- <https://extension.psu.edu/getting-rid-of-paper-wasps-and-yellow-jackets>
- <https://ento.psu.edu/extension/factsheets/baldfaced-hornet>
- <https://content.ces.ncsu.edu/european-hornets>
- <https://www.nytimes.com/wirecutter/reviews/best-hornet-wasp-spray/>

Images included herein were obtained from various websites.

IMPORTANT NOTE:

Always read the label before using any pesticide, whether it is an organic or chemical product.