

The Largest Wasp in Nebraska: Cicada Killer

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July and August is stinging insect season in Nebraska. The sight of a wasp frightens people and rightly so. Some individuals suffer adverse reactions to wasp venom similar to the anaphylactic response to a bee sting. Cicada killer wasps can be considered scary, but they seldom sting. The damage to yards, landscapes and gardens are often more of an aesthetic problem than the health hazards of the wasp itself.

Identification

Of the solitary wasps, the cicada killer is the largest species in Nebraska, reaching lengths from 1½–2 inches. They have large, rust-colored eyes, wings, legs and antennae. Their abdomen appears hairless, black and marked with bright, bold yellow patterns (usually three broken bands). They are considered solitary because they do not live in large colonies and collectively feed and care for multiple individuals. They live on their own, excavating a burrow in which to provision with prey and to lay their eggs upon. When female wasps locate a favorable location, nesting aggregations form, so it is common to have many nests in a small area, yet each burrow is nest to a single wasp.

Biology and Behavior

Female cicada killers possess a large, visible stinger, which is a modified egg-laying device. She uses her stinger to subdue and paralyze a cicada, so she can

fly with it back to her nest, drag it into the hole, down into the burrow and lay an egg on its body. She is a strong, daytime flier and returns to the surface to hunt and capture more prey. The larval wasp, which looks like a legless white grub, emerges from the egg a few days later and feeds on the living cicada left by its mother, spins a silken pupal case and prepares to overwinter. Pupation occurs in spring and adults emerge in June/July. There is one generation per year.

The male cicada killer wasps are much smaller than the females and remain close to the nesting location. They patrol the area, flying fast, erratic and seemingly furious to creatures in their territory. They will make contact with one another, try and mate with the female when she returns, land on flowers to feed on nectar and chase away any competition.

Pest Status

Cicada killer wasps are considered nuisance pests because nesting locations are often adjacent to homes; their presence elicits fear. The female cicada killer is capable of delivering a painful sting if handled, trapped in clothing or stepped on without shoes; otherwise she is not a threat to people. Likewise, the male wasp lacks a stinger, and so, although it appears to be aggressive in nature, he is completely harmless.

Cicada killer wasps become a pest midsummer when cicadas are active. They dig burrows in well-drained, light-textured soil in areas of full sunlight. They prefer areas with sparse vegetation



Photos: Jody Green, Nebraska Extension in Lancaster County

Cicada killer female wasp (shown approximate size) has paralyzed a cicada with her stinger. She will take it to her burrow underground.



Burrow of a cicada killer wasp as evidenced by half-inch to one-inch diameter entrance hole and a mass of loose soil.

and no mulch. This would include edges along lawns, sidewalks, driveways, golf course sand pits and garden beds. They

also burrow in spaces between landscape features such as retaining walls, garden planters, under porches and posts holes. Sometimes they will even burrow in the middle of the turf. Burrows are often identified by a half-inch diameter hole with a distinct U-shaped mound of kicked out soil. Without a wasp sighting, homeowners may mistake the cicada killer wasp burrow for rodent damage because of the kicked out soil.

Management

Cicada killers are considered beneficial insects and disappear when the cicadas die off in the fall. We don't encourage eliminating the cicada killers because they are insect predators and great pollinators. They do no permanent damage to the landscape nor do they harm plants. Homeowners may attempt to modify the environment in early June to discourage burrow excavation. Things like excessively watering of the area, creating shade, changing the soil type or increasing undesirable mulch may help cut down the number of cicada killers.

If numerous nests become a problem in the landscape, the infested area can be treated with an insecticide labeled for use on wasps or turf applications. One formulation to treat individual burrows may be to apply an insecticidal dust to the holes to contact wasps as they exit and enter. Be sure to always read the label for correct application and follow any safety precautions. Wear appropriate protective clothing and treat individual burrows in the evening, when female wasps are in their burrows for the night.

Excluding Wildlife from the Fruits of Our Labor

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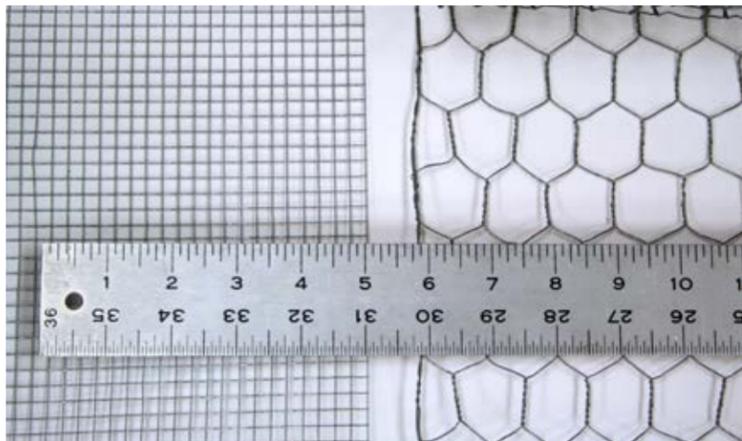
Sometimes it seems like a never-ending struggle to keep animals from getting to our garden produce before we get a chance to enjoy the fruits of our labor. For gardens, the right kind of fencing or netting will keep out a number of animals if done correctly. Fencing or netting is an investment so target the animals you may have the most problem with in your area, and fence accordingly.

Rabbits

Use rabbit fencing, hardware cloth or chicken wire with openings of 1" or less. The majority of the rabbits found in our area are eastern cottontails. For cottontails, your garden fence only has to be 2' high. Burying the fence 3–6" will also help keep animals from digging under the fence to get to your garden crops. Before covering with soil, bend the bottom of the fence you are burying out away from your garden — imagine an "L" shape with the bottom of the "L" facing out. As animals try to dig under the fence, the bottom of the "L" may stop them from getting further.

Squirrels

Wire fencing is not a deterrent for squirrels. To keep squirrels from a garden area, you'll need wire mesh 1/2" or less and the top will need to be



1/4" hardware cloth at left, chicken wire at right.

electrified. This type of fence is not recommended if you have small children. Depending on your community, electric fences may not be allowed or have restricted use. If you consider any of this type of fencing, be sure to call your city offices for regulations on electric fencing.

Raccoons

Wire fencing is also not a deterrent to keep raccoons from getting to your sweet corn. If you live in rural areas, two strands of electric fencing may help deter the animals from your garden. We do have raccoons living in the city limits and for most of us, this type of fencing is not an option. My advice is plant plenty of sweet corn and be ready to pick it fast.

Woodchucks

If your garden is threatened by woodchucks (also known

as ground hogs), you'll need a 4' high hardware cloth fence, buried 10–12" with the bottom bent in an "L" shape as described for rabbits above. Bending the top of the wire 15 inches out at a 45 degree angle, may also prevent woodchucks from climbing over the fence. In rural areas, an electric fence can be added 4–5" above the ground, 4–5" away from your wire fence. Exclusion is pretty effective, but you need a good fence. The good news is, if your garden is in a location where deer might be a problem, this fencing may also make it harder for deer to get to your produce.

Birds

Many of our favorite backyard birds are attracted to fruit and garden produce: robins, orioles, gray catbirds, rose-breasted grosbeaks and finches are just a few. Some birds

like crows will pull germinating plants right out of the ground. Wild turkeys have been known to fly into apple trees and damage apples. So what can you do?

- **Bird Netting** — Bird netting is effective on isolated trees and for use on small fruits. Most people put the netting directly on the plant they want to protect. For plants like strawberries, you'll want to make a frame or support so the netting isn't laying right on top of the fruit which is still accessible to the birds. Initially, bird netting is an investment. However, it can be used multiple seasons if taken care of. You can find bird netting in local lawn and garden centers, discount stores and hardware stores.
- **Scare devices** — If you go this route, you'll want to add

a variety of scare devices that move, reflect light and are different colors. Aluminum pie pans, children's pinwheels, reflective ribbon, eye spot balloons are just some examples of scare devices that can be used to try to discourage birds. Avoid using items that don't move like the plastic snakes and owls.

Protecting Small Beds and Containers

To keep animals like rabbits and squirrels away from flower beds and containers, create a frame and drape plastic mesh netting over the plants. Mesh netting, like bird netting, is found in colors that blend in with the environment. You can also use this same technique to protect strawberries and other small fruit from birds.

June and July: Let Bats Fly!

If you have bats roosting in your home, business, church or school, you have a few more weeks before removal and exclusion should be attempted. Do not install one-way doors or seal exit/entry points during June and July. Young bats are still in the roost. If trapped indoors and/or adults can't get to them, the young will move about, starve and die. The dead bats will decay and create an odor problem. Begin your control efforts after all young bats have left the roost which is sometime in August. If you know you have bats roosting in a building, read Nebraska Extension's "Bats in and Around Structures" available as a NebGuide and interactive online magazine at <http://lancaster.unl.edu/pest>.

—Soni Cochran, Extension Associate