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blayton@entomology.msstate.edu

Paper Wasps: The fertilizer spreader had been hanging in the shed all summer when Joe decided it was time to apply some granular lime to the lawn. He did not notice the large red wasp nest inside the spreader until it was too late. Mrs. Mildred was pruning the holly bushes when she encountered a large Guinea wasp nest. She had actually cut the limb the thing was hanging from before she saw it. Bubba was opening the gate to the hunting club to go start working on the food plots when he felt a familiar burning sensation on his right hand; the same thing happened last week when he was taking the spare tire off the horse trailer. These are just a few of the situations in which one might have an unpleasant encounter with paper wasps. If you spend much time outdoors, you can probably add a few of your own, based on painful personal experience.

Paper wasps overwinter as mated females and begin new nests each spring. Nests are often built under the eaves of buildings and other locations that are protected from rainfall, but paper wasps also nest in thick shrubs and grass. The single-layered, umbrella-shaped nests are small at first, with only the founding female and a few paper cells with eggs and developing brood, but by late summer a nest can contain dozens of wasps that will react quickly and aggressively if their nest is disturbed. Accidentally disturb a nest in the early spring and you may get stung once or twice, but the same type encounter in late summer can result in a lot more stings.

Several species of paper wasps occur in the state. The three most common groups are:

Guinea Wasps, *Polistes exclamans*: This is our most common paper wasp; there are probably several nests around your house right now. Somewhat smaller than our other paper wasps, Guinea wasps are often mistakenly referred to as “yellow jackets,” but yellow jackets nest in the ground and are yellow with black bands, while guinea wasps build aerial nests and are yellow with brown bands.

Red Wasps, *Polistes metricus*, *P. annularis*: Red wasps are dark red with black abdomens. Fishermen often see large nests, some as big around as a man’s straw hat, in bushes overhanging water, but these wasps also build their nests around buildings and infrequently used equipment.

Orange Paper Wasps, *Polistes perplexus*, *P. carolina*: These large wasps are easily recognized by their burnt orange color and black wings. One species likes to nest inside protected sites such as inside the eaves of houses and other building voids. You might think the fact that their nests are less exposed would make them less aggressive, but the guards they post around the entrance are quick to attack people working or playing in the area, and their stings are especially painful. Fortunately, these are our least common species, but buildings that are poorly sealed, with cracks that allow these wasps access to suitable nesting voids, often house numerous nests. Keeping buildings bug-tight so these wasps are not able to enter voids in the first place is the best defense against this problem.

Solitary Wasps: We also have a large number of insects that look like paper wasps, but aren’t. Most of these are solitary wasps, meaning that there is only one female to the nest. Solitary wasps do not build paper nests like paper wasps. Many nest in holes in plants, lumber, or soil, and provision their nests with various types of prey insects. Others are parasitic wasps that lay their eggs in other insects without bothering to build a nest at all. Mud daubers are solitary wasps that catch and parasitize spiders. Because they do not have strong nest defense instincts, solitary wasps are not aggressive and rarely sting unless accidentally trapped against the skin.

How can you avoid paper wasp stings, or at least reduce your chances of getting stung? Learn to be ‘wasp-wise’. Be aware of the kinds of places wasps build their nests and check for nests before moving infrequently used items or otherwise causing a disturbance in the area. The more exposed nests are easy to spot, but don’t forget to check for nests in more hidden areas as well. If that fertilizer spreader has been hanging in the tool shed since last year, it could have a large wasp nest built in it. There might also be one on the underside of that picnic table you are about to move, or in those shrubs you are about to prune. The best way to check for hidden wasp nests is to give the item you

are about to move a sharp shake or jar, then step back a few steps and see if any wasps fly out. Repeat this process a few times. If you see no wasps, proceed with your task. If you see wasps, determine where the nest is located and treat it before proceeding.

How do you control paper wasps? Keep a can of aerosol wasp and hornet spray handy. There are many different brand names, all of which contain a mixture of fast-acting insecticides and synergists and provide rapid contact control. Some are designed to shoot a narrow stream of spray up to 15 feet or more. Others produce a wider spray pattern, but won't spray as far. Counter intuitively, the ones with the broader spray pattern are often the best choice, especially when you have to treat nests that are close up. The broader spray pattern allows you to cover all the wasps at one time. See Bug-Wise Newsletter No. 2 of 2012 for information on wasp sprays that can be used around electrical and telecommunications equipment (go to www.msucare.com, click on "Newsletters", click on "Bug-Wise," and see issue 2 of 2012.) .

To use wasp and hornet sprays, simply approach the nest quietly, minimizing any vibrations and other disturbance, and direct a three to five second burst of spray at the nest, being sure to cover all of the wasps. It is best to get close enough that you can thoroughly soak the nest on your first attempt. Try to spray a nest from too far away and you may not get adequate coverage to quickly kill all of the wasps. Use appropriate caution. There's always the potential to get stung any time you are dealing with stinging insects. Wearing protective gear/clothing, and/or treating at night, when wasps are less likely to fly, helps reduce the risk of stings. People who are especially sensitive or allergic to wasp stings need to get someone else to handle wasp control.

Keep in mind that despite their ability to sting, paper wasps are beneficial insects. They don't provide much pollination, but they catch large numbers of caterpillars to carry back to the nests and feed to their grubs. Some organic and specialty farmers even build 'wasp houses' near fields to encourage wasps to nest there and provide free insect control. The point being that you don't have to eliminate every wasp nest you see. If a nest is in an out of the way place where it's not likely to cause a problem, why not live and let live? On the other hand, if you notice a nest in a location where it is likely to cause problems in the future, go ahead and control it while it is on your mind. That little nest that is right over the door to the storage shed probably needs to go.

Overwintering Paper Wasps in Attics: One of the more distressing problems with paper wasps occurs when large numbers of overwintering females accumulate in attics or other areas of a building. They are not nesting there, just spending the winter. Because they have no nest to defend, overwintering female wasps are not very aggressive, although they can, and will, sting if provoked or trapped against the skin. Some buildings can house hundreds, even thousands, of paper wasps. These overwintering females accumulate in large clusters in attics and other building voids, and a cluster may contain several different species of wasps. This problem may not be noticed during the colder parts of the winter, except by heating technicians and other people who are working in the area, but as weather warms in the spring these overwintered females begin to emerge from their overwintering sites and accumulate around exterior cracks or make their way into the inside living area. Once this problem occurs, the most practical course of action is to just wait for them to leave in the spring, keeping a fly swatter handy for those wasps that make their way into the living area. Sealing cracks that allow wasps to move from the attic to the inside living area will also help, but don't try to seal cracks that allow entrance from outside to the attic until wasps have left for the spring. If the problem is severe enough you will probably want to take steps to keep it from happening again next winter.

The best defense against this problem is to **be sure the building is "bug-tight" before cool weather arrives in the fall**, so overwintering paper wasps are unable to get inside the building. See Bug-Wise Newsletter No. 9 of 2011 for more information on how to "Bug-proof Your House for Winter (go to www.msucare.com, click on "Newsletters", click on "Bug-Wise," and see issue 9 of 2011.) From now to early fall is an ideal time to carry out such bug-proofing activities. This also helps keep out other troublesome insects that like to overwinter inside buildings, such as Asian lady beetles and kudzu bugs.

Blake Layton, Extension Entomology Specialist

This information is for educational and preliminary planning purposes only. Brand names mentioned in this publication are used as examples only. No endorsement of these products is intended. Other appropriately labeled products containing similar active ingredients should provide similar levels of control. Always read and follow the insecticide label.