



Pests and Pesticides in Child-serving Facilities: An IPM Newsletter

New Publication on Odorous House Ants

Karen M. Vail and Jennifer G. Chandler, UT E&PP

This month UT Extension published a factsheet (W473) on odorous house ants (<https://extension.tennessee.edu/publications/Documents/W473.pdf>), the most common ant entering structures, including schools, in Tennessee. While much of the management recommendations will apply to schools, not all is appropriate. For instance, liquid baits could be problematic around schools as students could possibly shake the liquid bait out of the station. What follows is a version of W473 made more applicable to schools.



OHA nest between layers of leaves. Photo credit: Jennifer Chandler, UT Entomology & Plant Pathology

Management:

1. Correctly identify the ant.

The odorous house ant or OHA is 1/8-inch long, dark brown to black and smells like rotten coconut when crushed. It has a one-segmented waist that lacks a node or bump. Often, many nests with multiple queens are present around a structure. They nest in existing voids found in or under outdoor objects such as leaves, mulch, landscape timbers, rocks and logs and have even been found nesting behind the stems of ivy growing vertically on a building. In schools, they are often seen indoors foraging to food left in garbage cans, desks or food storage areas, inadequately cleaned spilled food or beverages, or unrinsed recyclables and their collection containers.



OHA following edge of concrete pad and foundation wall as a guideline between the dumpster and kitchen. Photo: Karen Vail, UT Entomology & Plant Pathology

2. Remove conducive conditions that allow OHAs to thrive.

Outdoor items to consider for removal:

- Mulch, pine straw, leaves and wood, siding or debris on the ground near to the structure.
- Ivy growing on/near the structure.
- Landscape timbers (use formed block or other solid objects instead).

Flu viruses spread from person to person mainly in droplets made when people with flu cough, sneeze, or talk.

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Other outdoor practices to change:

- Manage aphids, scale, mealybugs and other sucking insects on landscape plants close to the structure.
- Trim tree and shrub limbs touching the structure.
- Plant nectar producing plants away from the structure.
- Dispose of carrion left near the structure.
- Move outdoor garbage cans away from the structure.
- Regularly clean garbage cans and dumpsters.
- Fix dripping faucets.
- Seal pipe penetrations into the structure and other potential entry points.

Indoors:

- Clean spills promptly.
- Wash food containers after use.
- Store food properly to prevent ant access.
- Remove waste regularly, especially before school vacations.
- Seal pipe penetrations and similar ant entry points inside the structure.
- Fix leaks quickly.
- If not using ant bait, wipe foraging trails with soapy water or cleaner to remove the pheromone the ants are following. Repeated wiping of indoor trails may discourage these ants from foraging indoors.

3. Monitor and inspect to locate nests and areas of activity.

Indoors, follow ant trails to determine nest sites.

Outdoors, place index cards with a smear of honey every 10-20 feet around the base of the structure. Check the cards in 40 minutes and count the number of OHAs.

Follow the ants back to their nests and note nest location. This technique may allow you to detect previously ignored nest sites.

4. Bait areas of activity. Bait outdoors where more than 10 OHAs are found per index card. Workers tend to bring bait back to their specific nest and not all the nests of a colony, so it's important to place bait where the ants are actively trailing. It's important to ensure any bait placed is not accessible to students which can present quite a challenge. Gel baits also can be placed in cracks and crevices where the ants are active, but it is difficult to apply enough bait in this manner. Avoid using fast-acting sprays, such as pyrethroids, near baits to prevent killing workers before they can transfer the bait back to the colony. Baiting indoors where ants are active as a sole treatment will most likely provide a short-term reduction in indoor ant foraging. Tens of thousands of workers may be present outdoors, so when an indoor nest is eliminated, it is usually just a matter of time before outdoor ants replace them. Indoor baiting could also encourage indoor foraging. Removing the food source and wiping pheromone trails and/or vacuuming ants should reduce indoor activity in schools without baiting indoors. If baits are placed,

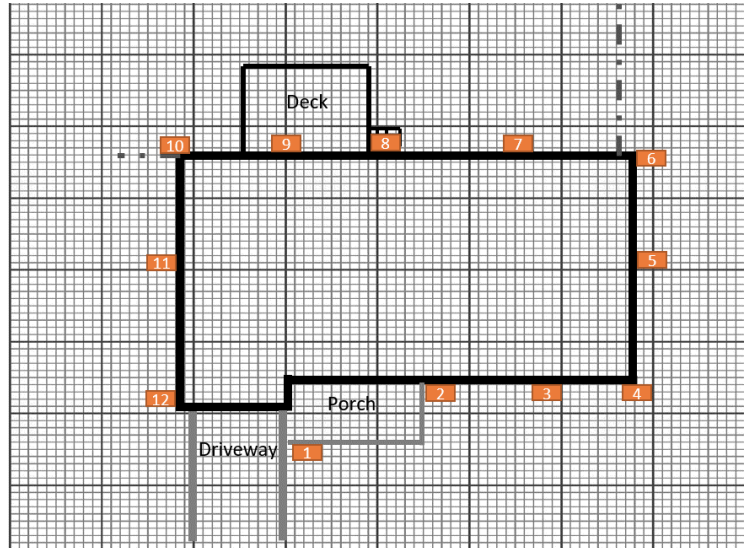


Place honey-smear index cards every 10-20 feet around the base of the structure. After 40 minutes note the count and record the number of ants. Photo credit: J. Chandler, UT Entomology & Plant Pathology

do not wipe ant trails or otherwise disturb ants foraging to bait. **To legally apply pesticide in a school the technician must be certified in category 7 and working under a person licensed by the Tennessee Department of Agriculture in General Rodent and Pest Control. No teacher, principal, custodian, maintenance staff or anyone else should apply pesticides in schools unless they meet this criteria.**

5. Treat nests. Because many outdoor nests can be found around a structure, it is difficult to locate all of them. Treating nest sites as the sole treatment method would be most effective when just a few small nests are present. Finding nests sites often involves lifting objects to expose the nest. Inspect and treat nests at the same time to avoid disturbing the ants and causing them to move prior to treatment. Do not make applications to nests where students could contact the insecticide.

6. Treat perimeter, entryways and areas of activity. A typical perimeter treatment involves spraying the ground/foundation wall interface; the siding/foundation wall interface; and the area around doors, windows and vents. Recent changes to pesticide labels have restricted the areas where perimeter sprays can be applied. Read labels carefully to avoid misapplying the pesticide and possibly causing unintended runoff. Treat areas of ant activity if allowed by label. Both slow-acting and fast-acting perimeter treatments can dramatically reduce the number of outdoor foraging OHAs, but they may slowly affect indoor ant activity if outdoor baits have not been used. Do not apply perimeter treatments when there is a risk of occupants contacting wet insecticides.



Place honey-smearing index cards every 10 - 20 ft around the base of the structure. After 40 minutes note the locations where the ants are found and follow the ant trail back to the nest. Photo credit: K. Vail, UT Entomology & Plant Pathology

Applying fast-acting crack and crevice pesticides to ants indoors will have little effect on outdoor OHA populations and may prolong indoor activity. Avoid applying fast-acting insecticides to interior cracks and crevices as the sole treatment. In schools, it would be better to avoid applying insecticidal sprays or dusts indoors. Finding the indoor food source, removing it and wiping down the foraging trails could be very effective in reducing indoor foraging that was disturbing the classroom occupants.

7. Combine above. Integrated pest management relies on multiple tactics and managing OHAs is no exception. The best OHA management results will be achieved with a combination of the above practices. Correctly identifying the pest ant and correcting conducive conditions are musts when managing OHA infestations. Monitoring and inspecting to note nest location and activity is especially helpful. Combining nonchemical and different chemical treatments should increase pest management success.

Additional resources

Examples of products registered for OHA in Tennessee, can be found at extension.tennessee.edu/publications/Documents/PB1690.pdf, but not all products will be appropriate for schools. For other odorous house ant and pest ant resources see the eXtension website at articles.extension.org/ant_pests and for an eXtension webinar video, *Don't let tramp ants take over your home*, see youtube.com/watch?v=bokqElgNbMo&feature=youtu.be.

IPM for Microorganisms: Cleaning, Disinfecting, and Sanitizing

Dawn H. Gouge (public health entomologist), Natalie Brassill (water quality assistant in Extension, and Channah Rock (environmental microbiologist), University of Arizona

Reprinted from the Arizona Indoor IPM Integrated Pest Management Newsletter – January 2018, <https://cals.arizona.edu/apmc/docs/2018JanuaryAZschoolandhomeIPMNewsletter.pdf>

2017-2018 Flu Season is Particularly Bad. In many states the current flu season started earlier than usual, and the onset of flu season in November invariably led to increased transmission of infections during travel, and seasonal gatherings. Public health officials monitoring the number of flu related hospitalizations and outpatient visits have reported higher than normal case counts, and this could well indicate a severe flu season is in full swing. To date, widespread flu activity has been reported in 46 States according to the Centers for Disease Control and Prevention (CDC). In 26 states, flu activity has been classified as "high" (see weekly CDC influenza maps <https://www.cdc.gov/flu/weekly/usmap.htm>).

Influenza is a highly contagious viral infection that causes the rapid onset of symptoms. The symptoms may start mildly, but often increase in severity rapidly, sometimes in a matter of hours. People who have the flu often feel some or all of these symptoms:

- Fever (not everyone with flu will have a fever)
- Chills
- Cough
- Sore throat
- Runny or stuffy nose
- Muscle or body aches
- Headaches
- Fatigue (tiredness)
- Some people may have vomiting and diarrhea, though this is more common in children than adults.



Influenza virus viewed using a microscope

Any person experiencing chest pain or breathing complications should seek immediate medical assistance.

Pneumonia-like symptoms include serious congestion, chest pain, difficulty breathing, fever of 102°F or higher, and/or coughing that produces pus. Pneumonia in very young children or in adults older than 65 is cause for concern, and severe symptoms in a person of any age may become life-threatening and result in death if left untreated. Bronchitis, sinus and ear infections are other common complications resulting from the flu virus.

The flu can also exacerbate (make worse) chronic health problems like asthma and chronic obstructive pulmonary disease (COPD).

Most people recover completely within two weeks. Influenza antiviral drugs may be prescribed to treat influenza infections. There are three different antiviral drugs that are recommended for use in the United States for the treatment of influenza: oseltamivir, peramivir and zanamivir.

Across North America there are a number of influenza virus (strains) causing illness, but the strain most commonly causing individuals to seek medical attention currently is **influenza A H3N2**. The H3N2 virus affects seniors and young children to a greater extent, and symptoms tend to be more severe compared to other influenza A or B strains.

In attempts to reduce the spread of the flu virus and other pathogens (microorganisms that cause disease) caregivers often reach for disinfectant wipes in homes, classrooms, and childcare centers, **but may not realize that disinfectant wipes are registered pesticides as they are designed to kill, or inactivate microbes**. Disinfectant products can be used in homes, schools, childcare facilities, and medical centers safely and effectively, but there are a few things everyone should know:

1. **Always** follow [label](#) directions. The "Directions for Use" are specific, and the product may not work if you don't follow them. Most products require **application**, leaving to **stand** for a set amount of time, and **rinsing** completely with water to remove disinfectant residues.
2. Many disinfectants require the use of protective gloves when using.
3. Dirt, food debris, and litter can reduce the effectiveness of the disinfectant, and should be removed prior to the use of the disinfectant with a wet or dry cloth.
4. **Many products can be harmful when touched or inhaled**. Certain ingredients pose particular problems for asthmatics and individuals with compromised lung function. These products should be used in a well ventilated area or with the use of proper Personal Protective Equipment (PPE) such as a respirator.
5. Whether disinfectants are used in medical, home settings, or elsewhere, they may not be used on surfaces that come in contact with food until residual disinfectant is removed. It is advised to review the label for use on food contact surfaces.

It is inappropriate to ask children to clean desks and surfaces with disinfectant wipes.

**Children are not legally allowed to handle many disinfectant wipes and use statements on a label is legally binding. Many labels clearly state
"KEEP OUT OF REACH OF CHILDREN".**



So how can caregivers and facility managers maintain healthy indoor environments, and limit the spread of the flu virus? **Flu viruses spread from person to person mainly in droplets made when people with flu cough, sneeze, or talk.** Less often, a person might get the flu by touching a contaminated surface or object then touching their own mouth, eyes, or nose. Most healthy adults may be able to infect other people beginning 1 day before symptoms develop and up to 7 days after becoming sick. Children may pass the virus for longer than 7 days. Symptoms start 1 to 4 days after the flu virus enters the body.

This means that you are able to pass on the flu to someone else before you feel sick yourself.



To minimize flu:

- **Stay home when you are sick.** If possible, stay home from work, school, and errands when you are sick. You will help prevent others from catching your illness. Avoid close contact with people who are sick or who have chronic illnesses. Teachers and workplace managers, please accommodate students and workers keeping up with schoolwork and work projects from home as much as possible.
- **If you are ill cover your nose and mouth** with a tissue when you cough, sneeze or talk. Throw the tissue away immediately after use and **wash your hands with soap and water**. If a tissue is not available, cover your mouth and nose with your sleeve, or the crook of your elbow. This has been named the “vampire sneeze”, and catches on well with young children. If you cover your mouth and nose with your hands, wash them immediately.
- If you are responsible for managing an indoor environment having **boxes of tissues on-hand can be very helpful.**
- **Wash your hands often with soap and water**, especially after you cough or sneeze. Give children the opportunity to wash their hands and encourage children to wash their hands effectively: 1) Rinse hands and arms up to the elbows. 2. Apply soap and lather for at least 20 seconds (sing the Happy Birthday song twice) cleaning hands, arms, and fingernails. 3. Dry with a paper towel. **NEVER have children use disinfectant wipes as hand sanitizer wipes, these are two very different things.**
- Hand washing with ordinary soap and water is the most effective way to remove pathogens (germs causing illness). But often it’s simply impractical and **alcohol-based hand sanitizers are effective in preventing the spread of the seasonal flu, colds and other viral- and bacterial-based pathogens.**
- **Avoid touching your eyes, nose, or mouth.** Encourage children to avoid touching their own or others’ faces.

- **Clean and disinfect surfaces or objects.** This is a job for adults, who can accurately use products correctly following all the steps necessary as provided on the label.
- **Wearing surgical masks does help.** Studies have shown that family members caring for dependents with flu reduced their risk of getting the virus by 70 % when they washed their hands often, and wore surgical masks.

When addressing pathogens in the built environment, select the cleaning product based on the need. While soapy water is sufficient to clean up a drink spill, it is not the best option for all jobs, for example, a disinfectant is required to clean wrestling mats to prevent the spread of infectious skin diseases like ringworm (a fungal infection of the skin). **Remember that disinfectants are registered pesticides and therefore the label must be followed in order to avoid health problems,** such as eye injuries, chemical burns, and respiratory illness, as well as to achieve effective disinfection.

A Few Final Flu Facts

1) You cannot get the flu from the flu vaccine. It is just impossible. You may still get flu even if you are vaccinated, but it will not be because of the vaccination. Vaccines help to both reduce the severity of an infection as well as prevent infections in health adults and children.

2) The flu is not “just a bad cold”. The flu (influenza) virus can cause serious symptoms. In the United States, about 200,000 people are hospitalized and tens of thousands of people die each year because of the flu. Children are 2–3 times more likely to develop influenza than adults and more than 20,000 children under the age of five are hospitalized due to the flu each year. Influenza kills about 100 children under the age of five in the United States every year. The CDC recommends that children 6 months and older should get vaccinated against the flu every year.

3) It is very difficult to distinguish the flu virus from other viral or bacterial causes of respiratory illnesses on the basis of symptoms alone. But there are tests available from your doctor to diagnose a flu virus infection.

Citations

National Pesticide Information Center <http://npic.orst.edu/health/readlabel.html>

Washington State University <https://schoolipm.wsu.edu/microorganisms/>

Delusory Parasitosis

Karen Vail

In the last issue of this newsletter I indicated I would discuss delusory parasitosis because we had an unusually high number of submissions last year; however, after giving this more thought, it didn't seem that this was the appropriate venue, as little delusory parasitosis occurs in schools. “Delusory parasitosis (DP) is a false, unshakable belief that tiny organisms, such as mites, fleas, or worms, live in or on the skin, or within the body” (Bione and Hinkle 2006, Hinkle 2000). If you are interested in further discussion of this subject, please see the references listed below.

Sources:

Bione, S.E.D. and. N. C. Hinkle. 2006. [Public Health Issue] Invisible Bugs. Pest Control Technology

Hinkle, N.C. 2000. Delusory parasitosis. American Entomologist 46: 17-25.

Hinkle, N.C.2010. Ekbohm Syndrome: The Challenge of “Invisible Bug” Infestations. Ann. Rev. Entomol. 55: 77-94.

Potter, M. 1997. Invisible Itches: Insect and Non-Insect Causes. University of Kentucky Cooperative Extension.

<http://www.ca.uky.edu/agc/pubs/ent/ent58/ent58.pdf>

Vail, K. 2011. “Rash” of Delusory/Illusory Parasitosis Cases. http://schoolipm.utk.edu/documents/newsletters/april_2009.pdf

This newsletter produced by:

Karen Vail, Ph.D., Professor,
 Extension Urban Entomologist
 Entomology and Plant Pathology
 370 Plant Biotechnology Bldg.
 2505 E J Chapman Drive
 Knoxville, TN 37996-4560
 ph: (865) 974-7138
 fax: (865) 974-8868
 email: kvail@utk.edu
 web: <http://schoolipm.utk.edu>
<https://ag.tennessee.edu/EPP/Pages/Vail.aspx>



Jennifer Chandler,
 Research Specialist III
 Entomology and Plant Pathology
 370 Plant Biotechnology Bldg.
 2505 E J Chapman Drive
 Knoxville, TN 37996-4560
 ph: (865) 974-7138
 fax: (865) 974-8868
 Email: jchand11@utk.edu

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 on this newsletter?

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For more information about IPM in Tennessee schools and other facilities, or to view past issues of *Pests and Pesticides in Child-serving Facilities*, please visit schoolipm.utk.edu.

NATIONAL IPM INFORMATION

eXtension's Pest Management In and Around Structures: Urban Integrated Pest Management http://www.extension.org/urban_integrated_pest_management

National School IPM
[schoolipm.ifas.ufl.edu/](http://schoolipm.ifas.ufl.edu)

IPM in Schools Texas
<http://schoolipm.tamu.edu/>

IPM Institute of North America
www.ipminstitute.org/

School IPM PMSP—all schools IPM by 2020 <https://ipminstitute.org/projects/school-ipm-2020/>

National Pest Management Association IPM
www.whatisipm.org/

EPA schools
<http://www2.epa.gov/managing-pests-schools>

For further information about the IPM program at your school or in your county, contact your county Extension Agent or the school IPM Coordinator. For county agent contact information, please visit <https://extension.tennessee.edu/Pages/Office-Locations.aspx>

Precautionary Statement

To protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label.

Disclaimer

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication.

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