

Termite Academy

Sept 12-13



Nebraska Extension will present a two-day termite hands-on training for termite applicators, home inspectors and others interested in wood-destroying insects. This "Termite Academy" will be held Tuesday, Sept 12–Wednesday, Sept. 13, 8 a.m.–5 p.m. both days. There will be classroom and field instruction by Nebraska Extension entomologists, UNL Pesticide Safety Education Program staff, Nebraska Department of Agriculture staff and industry specialists.

Classroom instruction will be at the Lancaster Extension Education Center, 444 Cherrycreek Road, Lincoln. Participants will travel to a house in Lancaster County to observe preparation and treatment for subterranean termites.

Registration fee is \$300 before Aug. 31, \$325 after Sept. 1. Fee includes manual, refreshments and lunches.

Registration form is online at <http://lancaster.unl.edu/pest> and available at the Extension office.

For more information, contact Jody Green at 402-441-7180 or jgreen17@unl.edu.

Mosquitoes: A Bad Buzz

Jody Green

Extension Educator

Mosquitoes are both a nuisance pest and a health pest. They are known as the deadliest animal on earth (think: Malaria, Dengue fever). There are 50 species of mosquitoes in Nebraska, half of them feed on human blood and only females bite because they require blood to produce eggs. Both male and female mosquitoes obtain nutrients from plant nectar.



Female *Culex* mosquito (shown magnified) taking a blood meal.

How Can I Keep Mosquito Bites Down This Year?

- Because mosquitoes are aquatic in the egg, larval and pupal stages, it is important to dump any stagnant water. Mosquitoes will breed in the smallest amount of water, so dumping the water out of containers, dog bowls, planters, saucers, tires, children's pools and toys will



Active ingredients of effective products (from left to right): Oil of lemon eucalyptus 30%, picaridin 20%, DEET 25%, DEET 15%

- remove potential breeding sites. Dump water at least once a week to break the mosquito life cycle.
- Fix and repair window and door screens.
- Avoid the outdoors during peak mosquito times such as dawn and dusk.
- Wear light colored, loose fitting clothing because mosquitoes prefer dark colors and can bite through fabric.
- Use effective insect repellents.

How Does DEET Repel Mosquitoes?

Mosquitoes are attracted to the carbon dioxide we expel. Insect repellents like DEET change the receptors of mosquitoes, which prevent the insect from detecting us. They may still land, but they won't bite if coverage is thorough, the product is effective and the concentration is high enough. DEET (Off!, Ben's®, Sawyer®,

Repel®) at 25–30% concentration is effective at repelling mosquitoes for eight hours.

Are There Any DEET-Free Options?

- DEET-free options that have been tested and evaluated include products with the following active ingredients:
- Picaridin (Sawyer®, Natrapel®).
 - Oil of lemon eucalyptus. (Repel®, Coleman®).
 - IR3535 (Coleman®).

More about repellents:

- Higher percentages allow for longer protection, but it's suggested to only apply to skin the percentage needed.
- High percentages of DEET (98%) will dissolve plastics, so be aware using around watches, cameras, sunglasses and other plastic objects.
- Be careful spraying aerosols near eyes and faces.
- Creams and liquids can provide better application coverage.
- Use lower percentages on children and reapply if necessary.
- Apply to skin, but not skin under clothing.

What Can Be Applied to Clothing to Protect From Mosquitoes?

Permethrin sprays are pesticides sold specifically

to treat clothing, which can remain effective through multiple wears and 4–6 washings. Be sure to follow the instructions and allow clothing to dry before wearing. There are also clothing lines that are factory pretreated with permethrin which remain effective against mosquitoes and ticks for up to 70 washings.

Do Bracelets, Citronella Candles, Essential Oils and Clip-on Fans Work?

No. Neither does drinking beer, bug zappers, eating certain foods, taking vitamin B, using smart phone apps or plug-in ultrasonic devices.

How Can I Treat Water That Cannot be Emptied at Least Once a Week?

When water cannot be dumped, Mosquito Dunks® can be dissolved in standing water such as troughs, fishponds, rain barrels and birdbaths. Mosquito Dunks® contain the active ingredient bacterium, *Bacillus thuringiensis israelensis* (*Bti*), which is toxic to mosquito larvae when consumed, but non-toxic to humans, pets, pollinators, fish and other wildlife. They are effective immediately and can last for a month.

Bats Can Be Removed From Buildings After Mid-August

Soni Cochran

Extension Associate

There are 13 species of bats occurring in Nebraska. Most are uncommon and rarely found near structures. Bats are not rodents with wings. They are instead, the only mammals with the ability of true flight which is made possible by their elongated finger bones covered with a thin layer of skin.

In Nebraska, all of our bats are insectivores. They do not eat wood or chew openings into buildings. Bats feed on flying insects like mosquitoes and moths. The bat catches the mosquitoes or moths in the air with their mouth or by scooping them up with their tail. The little brown bat (*Myotis lucifugus*) found in eastern Nebraska is only 2-1/2 to 4 inches long and weighs as much as three to five pennies. One little brown bat can eat 600–1200 mosquito-sized insects every hour!

Droppings are the most common sign bats may be present. The droppings are small (1/8 to 1/4-inch long), shiny black and dotted with fragments of insects eaten by the bat. People often call about finding droppings on porch floors, under eaves and below shutters. Bats are known to roost in buildings and can enter openings as small as 3/8 inch in diameter (about



A little brown bat (approximate size).

the diameter of your thumb).

Bats often times form maternal colonies which may include dozens of female bats, each with one or two young. The mothers leave the pups behind at night to find food and water. They return later to nurse their pups. In June and July, you are advised to leave bat roosts alone. If you seal a bat roost up too early, you risk trapping young bats in your home where they will die. Decaying dead bats in a building may create an odor problem.

As we get into mid-August, one-way doors can be installed so bats can exit the building and not find their way to reenter. There is no rush as exclusion can be safely attempted from mid-August through mid-May in

our area.

To exclude bats from a roost in a structure:

- Stand outdoors at dusk (about 30 minutes from dark) and watch the building for bats leaving their roost to hunt insects at night. If you choose to watch in the morning, begin watching about an hour before dawn. If the bats have a roost in a building, they use the same opening(s) to go in and out every evening when they leave to feed. Smudges left by the oil and dirt rubbing off the bat's fur while it goes in and out are also possible signs the animals are using the opening.
- Once you've figured out where the bats are going in and out of the building, seal any UNUSED openings with

1/2-inch screening, caulk or sealant. (Do not seal up openings the bats are using — at least not yet!)

- For all of the entry and exit points the bats ARE using, make a one way door. You can use one-foot strips of flexible 1/4-inch nylon netting draped down from the top of the opening (mosquito or bird netting). Iowa State Wildlife Specialists suggest using heavy cloth or even a sock with the end cut off to create a tube around the opening. This allows the bats to exit the building but they won't be able to reenter.
- Allow at least one week to go by before sealing and patching all of the entry points the bats were using. Work with a contractor or retailer to find the materials that will work best for your situation. You may be able to use foam sealants, fine wire mesh (1/2-inch squares or less) or do repairs to the soffit on your home. Remember, bats don't create holes, they use openings already available on the home.
- Again, never use one-way doors or seal up exit/entry areas during June and July when there still may be young bats in the roost.

If bats are resting behind shutters, flying around lights or hanging out in your entry way or unscreened porch:

- Direct bright light at the resting site to encourage the bats to leave.
- Turn off exterior lights at night to prevent flying insects (food for the bats) from gathering. Replace your standard bulb with a yellow "bug light" to reduce the number of insects.
- If you need light, consider a motion sensor to reduce the amount of time a light stays on in the area.
- For bats behind shutters, you may need to remove your shutters completely. Or add small blocks to the corners of the shutters to space them a few additional inches away from the wall.
- Bats found resting under patio furniture like table umbrellas, close up your umbrella when it is not being used and the bats can't be trapped in the closed umbrella.

FOR INFORMATION

Nebraska Extension has the following NebGuides at the Extension office and online at <http://lancaster.unl.edu/pest>:

- "Bats In and Around Structures" (available as NebGuide G1667 and online magazine Z1667), with detailed information how to exclude bats from homes, make one-way doors or remove an individual bat
- "Bat House Construction and Installation" (G1575), explains how to build and install bat houses.