

Why Do Mosquitoes Buzz in Your Ears?

Actually, mosquitoes buzz any time they are flying (and sometimes when they aren't flying). The buzzing is caused by the motion of their wings. Most mosquitoes are so quiet that you can't hear them unless they are close to your ears, so you only notice the ones that are buzzing around your ears. Of course, there are species that can be heard clear across the room!

Some species of mosquitoes are attracted to the carbon dioxide in your breath (that's how they find you). In still air, like a bedroom at night, they are attracted to the air around your head, and they end up close to your ears.

Do Bug Zappers Work on Mosquitoes?

Although bug zappers do kill insects, they mostly attract beneficial insects such as moths and ladybugs. The mosquito's drive for a blood meal is much stronger than an annoying neon light — they'll almost always bypass the bug zapper and go directly towards you.

How Many Different Kinds Of Mosquitoes Are There?

There are about 3,000 species of mosquitoes in the world, 150 of which can be found in the United States.

Joint project of
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And
Butler County Solid Waste
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PREVENT MOSQUITO BREEDING

Often, the most effective way to protect your family from being infected by disease-carrying mosquitoes is to get rid of them before they appear. Follow these tips on how to prevent mosquito breeding around your home:

- > Do not allow standing water to accumulate for more than two days. Common areas to check: old tires, buckets, unused plastic swimming pools, the base of a flower pot, pet dishes, plastic covers or any container that may collect water.
- > Change the water in birdbaths, fountains and wading pools at least once a week.
- > Clean debris from rain gutters and remove standing water under or around structures.
- > If you have a flat roof, check for standing water several days after a rain.
- > Check rain barrels for mosquito larvae. A tight cover will prevent egg laying. A thin layer of oil will kill mosquitoes already present.
- > Repair leaks or clear away puddles from around faucets and window air conditioning units.
- > Stock ornamental pools with minnows or goldfish (they eat mosquito larvae on the water surface) or treat the pools with biological larvicides (chemicals or natural bacteria that can be used to kill mosquito larvae).
- > Be sure to keep swimming pools, saunas and hot tubs clean and chlorinated. If not in use, keep empty and covered.
- > Empty accumulated water from boats and cargo trailers.
- > Fill or drain large puddles, ditches and swampy areas.
- > Remove, drain or fill tree holes and stumps with mortar.
- > Keep hedges and bushes trimmed to reduce shade.
- > Mow the lawn at least once a week. Mosquitoes can hide in the shade of tall grass.
- > Make sure windows, doors and porches are tightly screened and are free of holes.

TIRES

Item	Cost
Passenger Tires	\$2.00
Light Truck Tires	\$2.75
Truck Tires	\$7.00
Farm Fronts and Large Trailer	\$6.00
Farm Rears (small)	\$16.50
Farm Rears (large - depending on size)	Up to \$50.00
Rims (Additional charge of)	\$2.00

Scrap tires can be a prime breeding source for mosquitoes, including the northern house mosquito, which can carry West Nile Virus. When discarded, tires can accumulate small pools of water, where adult mosquitoes will lay eggs. Over the course of one breeding season, thousands of mosquitoes can be generated from just one tire. If tires infested with eggs, larvae, or pupae are transported, the potential to spread mosquitoes carrying the virus increases. Breeding takes place in water-filled tires where the egg is laid and the larva and the pupa can grow. The adult mosquito emerges from the water in as little as seven days after hatching.



Waste tires are accepted at the Butler County Transfer Station Monday through Friday, 8:00 a.m.-3:00 p.m.

BUTLER COUNTY'S

Mosquito BUZZ

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The rapid emergence of West Nile and other mosquito borne viruses in Iowa has attributed mosquito abatement initiatives among residents. Unfortunately these initiatives have primarily been adult mosquito eradication through the use of chemical insecticides.

While adulticiding may temporarily suppress adult populations, mosquito eradication products can produce a varying degree of adverse health effects on individuals including; concentration problems, confusion, depression, dizziness, drowsiness, eye irritation, fine motor coordination loss, gross motor coordination loss, headaches, hyperactivity, influenza symptoms, kidney injury, liver injury, nausea, respiratory problems, throat irritation and vomiting. A person's ability to absorb and retain information is profoundly and adversely affected when that person struggles with a chemical sensitive illness. Environmentally linked disease is on the rise, affecting our health, development, ability to learn and general well being.

Adult mosquitoes are also responsible for the transmission of infectious diseases including the deadly West Nile Virus and other severe strains of encephalitis, an infection of the brain and the spinal cord. In the last three years, an increase in West Nile Virus has been seen throughout the United States. In 2002 cases in Iowa were documented as follows: 51 confirmed human (including two deaths), 36 presumption positive humans, 113 birds, 1039 horses, 31 chickens, 8 mosquito pools and 1 squirrel.

The most effective strategy to control mosquitoes is to eliminate populations before they become biting adults. Finding and eliminating larval sources is far more effective than the historical adulticiding of disease carrying mosquitoes.

FAST FACTS ABOUT MOSQUITOS

-  All mosquitoes must have water in which to complete their life cycle.
-  Only seven days are required for a mosquito to complete its life cycle (egg to adult)
-  Mosquitoes DO NOT develop in grass or shrubbery, although flying adults frequently rest in these areas during daylight hours.
-  Only the female mosquito bites to obtain a blood meal. The male mosquito feeds only on plant juice.
-  The female mosquito may live as long as three weeks during the summer or many months over the winter in order to lay her eggs the following spring.

Mosquito Myths

Contrary to popular opinion mosquitoes do not bite once and then die. Female mosquitoes are capable of biting more than once. After the female takes a blood meal, she completes the development of her eggs and may deposit, in water, up to 250 eggs at once. She is then able to seek another blood meal.

Mosquitoes, like all insects, are cold-blooded creatures. As a result their body temperatures are the same as their surroundings. In temperate climates, adult mosquitoes become inactive with the onset of cool weather and enter hibernation to live through the winter. In spring, the females emerge from hibernation, find a blood meal and lay their eggs.

Did you Know....

Mosquitoes are the most dangerous animals in the world, killing an estimated two to three million people per year. In the United States alone, there are 150 different species – each one carrying different types of disease.

MOSQUITO LIFE CYCLE



Egg: Eggs are laid one at a time and attached together to form rafts. They float on the surface of the water. In the case of *Culex* and *Culiseta* species, the eggs are stuck together in rafts of up to 200. *Anopheles*, *Ochlerotatus* and *Aedes*, as well as many other genera, do not make egg rafts, but lay their eggs singly. *Culex*, *Culiseta*, and *Anopheles* lay their eggs on the water surface while many *Aedes* and *Ochlerotatus* lay their eggs on damp soil that will be flooded by water. Most eggs hatch into larvae within 48 hours; others might withstand sub-zero winters before hatching. Water is a necessary part of their habitat.



Larva: The larva (plural - larvae) lives in the water and comes to the surface to breathe. Larvae shed (molt) their skins four times, growing larger after each molt. Most larvae have siphon tubes for breathing and hang upside down from the water surface. *Anopheles* larvae do not have a siphon and lie parallel to the water surface to get a supply of oxygen through a breathing opening. *Coquillettidia* and *Mansonia* larvae attach to plants to obtain their air supply. The larvae feed on microorganisms and organic matter in the water. During the fourth molt the larva changes into a pupa.



Pupa: The pupal stage is a resting, nonfeeding stage of development, but pupae are mobile, responding to light changes and move (tumble) with a flip of their tails towards the bottom or protective areas. This is the time the mosquito changes into an adult. This process is similar to the metamorphosis seen in butterflies when the butterfly develops - while in the cocoon stage - from a caterpillar into an adult butterfly. In *Culex* species in the southern United States this takes about two days in the summer. When development is complete, the pupal skin splits and the adult mosquito (imago) emerges.

Adult: The newly emerged adult rests on the surface of the water for a short time to allow itself to dry and all its body parts to harden. The wings have to spread out and dry properly before it can fly. Blood feeding and mating does not occur for a couple of days after the adults emerge.



MOSQUITO REPELLENTS

Insect repellents help people reduce their exposure to mosquito bites that may carry potentially serious viruses such as West Nile virus, and allow them to continue to play and work outdoors.

Many of the mosquitoes that carry the West Nile virus are especially likely to bite around dusk and dawn. If you are outdoors around these times of the day, it is important to apply repellent. In many parts of the country, there are mosquitoes that also bite during the day, and these mosquitoes have also been found to carry the West Nile virus. The safest decision is to apply repellent whenever you are outdoors.

The most effective repellents contain DEET (N,N-diethyl-m-toluamide), which is an ingredient used to repel pests like mosquitoes and ticks. DEET has been tested against a variety of biting insects and has been shown to be very effective. The more DEET a repellent contains the longer time it can protect you from mosquito bites. A higher percentage of DEET in a repellent does not mean that your protection is better—just that it will last longer. DEET concentrations higher than 50% do not increase the length of protection.

Because DEET is so widely used, a great deal of testing has been done. When manufacturers seek registration with the U.S. Environmental Protection Agency (EPA) for products such as DEET, laboratory testing regarding both short-term and long-term health effects must be carried out. Over the long history of DEET use, very few confirmed incidents of toxic reactions to DEET have occurred when the product is used properly.