

CHOCTAW HEALTH CENTER
OFFICE OF ENVIRONMENTAL HEALTH
MOSQUITO CONTROL



The Choctaw Health Center Office of Environmental Health strives to aid tribal members in keeping pests which may be detrimental to public health controlled to as reasonable a level as feasible. Homeowners, business owners, and tribal government must work together in this effort through a system known as Integrated Pest Management.

WHAT IS INTEGRATED PEST MANAGEMENT?

Integrated Pest Management (IPM) is an overall pest management strategy for control of pests in homes, apartment buildings and dorms, and businesses. IPM is a pest management system that combines non-chemical control strategies with less toxic pesticide use minimizing risk to human health and the environment.

For example, traps, baits, and gels might be used instead of sprays to control pests. IPM minimizes health risks for susceptible populations, such as small children and older adults. IPM also focuses on eliminating ways for pests to get into homes, as well as eliminating access to food and water if they do get inside.

MOSQUITO CONTROL

Everyone has had the unpleasant experience of being bitten by a mosquito. Mosquito bites can cause skin irritation through an allergic reaction to the mosquito's saliva – that is what causes the red bump and itching. But a more serious consequence of some mosquito bites may be transmission of certain serious diseases such as malaria, dengue fever, and several forms of encephalitis, including West Nile Virus.

Not only can mosquitoes carry diseases that afflict humans, but they can also transmit several diseases and parasites that dogs and horses are very susceptible to. These include dog heart worms, eastern equine encephalitis, and West Nile virus.

There are about 200 different species of mosquitoes in the United States, all of which live in specific habitats, exhibit unique behaviors, and bite different types of animals. Despite these differences, all mosquitoes share some common traits, such as a four-stage life cycle.

Different species of mosquitoes prefer different types of standing water in which to lay their eggs. The presence of beneficial predators such as fish and dragonfly nymphs in permanent ponds, lakes, and streams usually keep these bodies of water relatively free of mosquito larvae. However, portions of marshes, swamps, clogged ditches, and temporary pools and puddles are all prolific mosquito breeding sites. Other sites in which some species lay their eggs include:

- Tree holes
- Old tires
- Buckets
- Toys
- Potted plant trays and saucers
- Plastic covers or tarpaulins
- Places as small as bottle caps!

Removing Mosquito Habitats

An important part of mosquito control around your home is making sure that mosquitoes don't have a place to lay their eggs. Because mosquitoes need water for two stages of their life cycle, it's important to monitor standing water sources.

- Get rid of standing water in rain gutters, old tires, buckets, plastic covers, toys or any other container where mosquitoes can breed.
- Empty and change the water in bird baths, fountains, wading pools, rain barrels, and potted plant trays at least once a week to eliminate potential mosquito habitats.
- Drain temporary pools of water or fill with dirt.
- Keep swimming pool water treated and circulating.

Prevent Your Exposure to Mosquitoes

Use the following tips to help protect yourself from exposure to mosquitoes:

- Use EPA-registered mosquito repellents when necessary and follow label directions and precautions closely. Repellents containing DEET have proven to be very effective. Some other products such as citronella-based repellents are somewhat effective. "Bug zappers" are NOT recommended. These actually attract mosquitoes and other flying insects.
- Tuck shirt into pants and pants into socks to cover gaps in your clothing where mosquitoes can get to your skin.

- Use head nets, long sleeves, and long pants if you venture into areas with high mosquito populations, such as marshes.
- Stay indoors at sunrise, sunset, and early in the evening when mosquitoes are most active, especially if there is a mosquito-borne disease warning in effect.
- Replace your outdoor lights with yellow “bug” lights, which tend to attract fewer mosquitoes than ordinary lights. The yellow lights are NOT repellents, however.
- Cover all gaps in walls, doors, and windows to prevent mosquitoes from entering.
- Make sure window and door screens are “bug tight.”
- Completely cover baby carriers and beds with netting.

Using Insect Repellents Safely

For the safe and effective use of pesticide products, always read the product label before using the product. Apply just enough repellent to cover exposed skin and/or clothing. Remember these important points to use repellents safely:

- Follow the label directions to ensure proper use.
- Repellents should be applied only to exposed skin and/or clothing. Do not use under clothing.
- Store insect repellents safely out of the reach of children, in a locked utility cabinet or garden shed.
- Do not apply near eyes and mouth, and apply sparingly around ears.
- When using sprays, do not spray directly into face; spray on hands first and then apply to face.
- Never use repellents over cuts, wounds, or irritated skin.
- Do not spray in enclosed areas. Avoid breathing a spray product, and do not use it near food.
- After returning indoors, wash treated skin and clothes with soap and water.
- Do not use any products on pets or other animals unless the label clearly states it is for animals.

Controlling Mosquitoes at the Larval Stage

Oils and films disperse as a thin layer on the surface of the water which causes larvae and pupae to drown.

Larvicides target larvae in the breeding habitat before they can mature into adult mosquitoes and disperse. Larvicidal treatment of breeding habitats helps reduce the adult mosquito population in nearby areas.

Liquid Larvicide products are applied directly to water using backpack sprayers and trucks or aircraft-mounted sprayers. Tablet, pellet, granular, and briquette formulations of larvicides are also applied by mosquito controllers to breeding areas.

Controlling Adult Mosquitoes

Communities seek to control adult mosquitoes to combat an outbreak of mosquito-borne disease or a very heavy, nuisance infestation of mosquitoes. The pesticides registered for this use are known as adulticides. They are applied either by aircraft or on the ground employing truck-mounted sprayers. State, tribal, and local agencies commonly use the organophosphate insecticides malathion and naled and the synthetic pyrethroid insecticides prallethrin, etofenprox, pyrethrins, permethrin, resmethrin, and sumithrin for adult mosquito control.

Mosquito adulticides are applied as ultra-low volume (ULV) sprays, ULV sprayers dispense very fine aerosol droplets that stay aloft and kill flying mosquitoes on contact. ULV applications involve small quantities of pesticide active ingredient in relation to the size of the area treated, typically less than 3 ounces per acre, which minimizes exposure and risks to people and the environment.

Adulticides can be used for public health mosquito control programs without posing risks of concern to the general population or to the environment when applied according to the pesticide label.

Mosquito surveying

If you would like your property to be evaluated for mosquito harborage, please contact the Office of Environmental Health at 601-389-4142.