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PUBLIC HEALTH ARTICLE

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MOSQUITO CONTROL AROUND YOUR HOME

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The mosquitoes known to transmit the Zika virus are **Aedes aegypti**, the Yellow Fever Mosquito, and **Aedes albopictus**, the Asian Tiger Mosquito. Both are black with white markings and both breed in smaller containers of water around homes and businesses. In fact, they are called container-breeders. In Brazil, Aedes egypti spreads Zika but in other parts of the world such as Africa, it is the Asian Tiger Mosquito. Whether the Asian Tiger Mosquito will



Cartoon by Raymond King

spread Zika person-to-person in the U.S. is still unknown but thought to be unlikely. Unlike the West Nile virus, Zika has no wild animal host like birds.

If Zika is spread by mosquitoes here in the U.S., and that is not certain, it is the Asian Tiger Mosquito most likely to do so. It is very common and an aggressive daytime biter. It was introduced to our country inside imported used tires and has largely displaced the Yellow Fever Mosquito in almost all areas of Georgia. The winged adults of this Asian species are first seen in May and peak in high summer, but they can remain through October. If you want to prevent biting mosquitoes of all kinds, get rid of water containers and standing water around your house.

I have investigated hundreds of mosquito complaints where I usually I found the mosquito larvae living happily in water on the property of those complaining – in pans under flower pots, blocked gutters, abandoned swimming pools, garbage cans, blocked ditches, boats, lids, decorative fish ponds, cans, bird baths, buckets, flexible downspouts, plant containers, yard toys, old tarps, and especially old tires. As noted, Asian Tiger Mosquitoes breed in very small amounts of water and they love tires.

Some species of mosquitoes can complete an entire life cycle from egg to adult in a week, so empty anything containing water frequently. There is no need to treat running waters for mosquito larvae. No mosquitoes in the U.S. breed in flowing creeks and streams. Ponds and lakes usually have fish that eat mosquito larvae.

Controlling mosquitoes by destroying their larvae and breeding places is a hundred times more efficient than killing adult mosquitoes. Killing adult mosquitoes is difficult

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but necessary where larvae control is limited or not possible. Pest control companies can apply barrier sprays to outside areas of your home and may also offer mosquito traps.

Objects or areas that cannot be emptied of water should be treated with Mosquito Dunks which contain bacteria fatal to mosquito larvae but absolutely harmless to everything else. Mosquito Dunks are safe for bird baths and even your pet's water bowl. You can break up these donut-shaped dunks by hand and use smaller pieces for small areas. Mosquito Dunks kill larvae for at least a month unless they are washed away. They are made in the shape of a donut so you can tie it to a rock with string. Placed this way in ditches and water holes, they will not wash away with the next rain. They must be replaced every thirty days or so. Bacteria in dunks will not hurt pets, children, birds or wildlife.

If you have a large area of permanent stagnant water, consider introducing small fish such as the native Mosquito Fish, *Gambusia affinis*. You can order mosquito fish online at http://www.kens-fishfarm.com/. Small bream and other native fish will work as well if there is enough oxygen in the water. There are a number of products to treat stagnant water areas ranging from biological controls like mosquito fish, growth regulators (methoprene contained in Altosid), to potentially hazardous pesticides. Of course Mosquito Dunks work as well but require more of them, about one for every 100 square feet of water.

Call a mosquito control professional or your environmental health office if you are not sure what to do. Don't treat stagnant pools with an inappropriate or too much insecticide. Always follow the label directions! If the pesticide is not labeled for killing mosquito larvae, don't use it. Using a pesticide for a purpose other than for which it is labeled or in greater concentrations than required is a violation of state and federal regulations. You may poison yourself, the environment, your family and your pets. Always use protective gloves when handling pesticides and use other precautions as recommended.

You want to keep adult mosquitoes out of your home. Doors to the outside should not be left open during mosquito season unless protected by tight-fitting screen doors. If you have shaded areas around your doors, these are great areas for adult mosquitoes to hang out during the day and enter your home as you open and close the doors. These shaded areas around doors should be treated with a residual insecticide at least once a month. You may buy these at hardware stores in ready-to-use sprayers, or mix your own from insecticide concentrates and apply with a simple pump sprayer. Use safety precautions and follow label directions.

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On a small scale around your home, you have several choices for killing mosquito larvae, the most basic of which is emptying all containers and draining stagnant puddles. Of course your neighbors must do the same and that is sometimes a problem. You may apply a little mineral oil or even cooking oil to small containers which will suffocate mosquito larvae. Mosquitoes love to breed in the pans under flower pots, so don't over water or at least keep them treated with dunks.

There are devices you can purchase which lure female mosquitoes into a trap, devices made especially for female container mosquitoes, Aedes aegypti and Aedes albopictus. Two of these products are Mosquito Trap-N-Kill© and Ovitrap©. If not available at your local stores, they may be ordered online.

Children and the elderly are most susceptible to diseases from mosquito-carried viruses, and must always be protected from mosquito bites by using protective clothing and mosquito-repellants. Repellants containing DEET are the best but there are alternatives such as picaridin and oil of lemon eucalyptus. However, these alternatives are generally less effective and do not last as long. If you use these alternatives to DEET on children you must repeat applications more often. And there is always the alternative of staying indoors during dusk, night and dawn when most female mosquitoes are out looking for blood.

And lastly, remember that mosquitoes also carry heartworms and other diseases to your pets. When you rid your property of mosquito breeding habitats you protect them as well.