

OH MOSQUITO, WHERE ART THOU?

_____, Environmental Health County Manager

_____ County Health Department

The other day a fellow asked me why, given the record amount of rain this year, we weren't all eaten alive with more mosquitoes. The mosquitoes have been bad but not in proportion to the record amount of rain we've had this spring. But don't despair; mosquitoes are on their merry way now to your neighborhood, home, business and property.

The reason we've not yet been inundated with waves of hungry adult mosquitoes is that these heavy spring rains have kept most mosquito larvae flushed out of the holes, ditches and many types of man-made containers in which they breed. Mosquito larvae do not survive when they are washed into streams or onto the ground. Until now we have not had a period of two weeks without heavy rains, so when the mosquito larvae hatch from eggs they were washed out before they could complete their life cycle into adults.

Whether or not we suffer from large adult mosquito populations depends on a couple of things. First, if the weather stays very hot, rains subside, and groundwater levels fall then the natural stagnant puddles and pools will dry and kill the mosquito larvae. Second, the actions we take

around our homes and properties to eliminate or treat stagnant waters used by mosquitoes often determine our degree of misery from mosquito bites. Even a cup of water inside a container can breed dozens of adult mosquitoes under the right conditions.

I have investigated many complaints concerning mosquitoes and more often than not the mosquitoes were breeding right under the noses of the complainants - inside flower pots, blocked gutters, abandoned pools, decorative ponds, all manner of small containers, and even in rainwater collected for plants. But if you have sewage effluent ponding on your property from a failing septic system that is pure mosquito heaven, potentially producing many thousands of adult mosquitoes.

Remember that some species of mosquitoes can complete an entire life cycle from egg to adult in as little as two weeks, so empty any containers and treat stagnant waters at least every two weeks. So how do you treat stagnant waters such as low areas holding a few inches of water? First, remember that there is no need to treat flowing waters; no mosquito of any kind breeds in flowing waters of creeks and streams; deeper waters such as farm ponds usually have plenty of fish that eat mosquito larvae.

There are a number of products to treat stagnant waters ranging from the very simple like mineral oil, to biological controls, growth regulators

(methoprene), to potentially hazardous pesticides. But the rule of thumb is if you don't know what you are doing, *don't*. Call a pest control professional, please. Don't treat a stagnant pool with an inappropriate or too much pesticide such that the next time it rains the pesticide will wash out into streams where it will kill fish and beneficial invertebrates. A common pesticide used for killing mosquito larvae is Malathion which has been used for decades because it is very effective and breaks down fairly quickly. However, ALWAYS FOLLOW THE LABEL DIRECTIONS! 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. Plus, you may wind up poisoning yourself, your family or your pets. Many pesticides have been linked to cancers and nervous system damage when used incorrectly, so take this seriously. Always use protective gloves when handling pesticides and use other precautions as recommended such as safety glasses. And finally about pesticides: NEVER FOLLOW THE IDEA THAT IF A LITTLE IS GOOD MUCH MORE WILL BE EVEN BETTER. This is never true when using pesticides and always leads to harm for people and/or the environment.

OK, back to mosquitoes and control of their larvae. Killing mosquitoes by controlling their larvae is a hundred times more effective than

trying to kill adult mosquitoes. Killing adults means spraying the general environment including people, pets and killing beneficial insects. Killing adult mosquitoes is necessary in many circumstances where larvae control is limited or not possible, but is always considered far less preferable to killing their larvae (larvaciding).

On a small scale around your home, you have several choices for killing mosquito larvae, the most basic of which is emptying containers, ALL containers, and draining stagnant puddles and low areas. Applying a little mineral oil to small containers suffocates the larvae because they must breathe air at the surface. Mosquitoes love to breed in the pans under flower pots, so don't over water. For small decorative ponds, you can buy at almost any home store the floating 'donut rings' containing a bacteria which kill larvae for several weeks. For small goldfish ponds, if you keep the water flow steady and strong mosquitoes will not breed in them. Although not generally available at all home stores, you can also purchase forms of *methoprene* which is a growth-regulator; methoprene prevents larvae from developing into adults and comes in small dry blocks of various sizes. Methoprene is considered a very safe larvacide but use according to label directions. If you have a very large area of stagnant water such as a small shallow pond, consider introducing fish such as *Gambusia affinis*, generally

called the 'mosquito fish' because mosquito larvae are its favorite food. Small bream work well too but the green sunfish (*Lepomis cyanellus*) can withstand the lower oxygen levels of shallow waters better than bluegills and other species of sunfish.

Children and the elderly are the most susceptible to permanent health damage and even death from the West Nile virus and must always be protected from mosquito bites by using protective clothing and bug-repellants. Repellants containing DEET are excellent but there are alternatives which are effective, some say safer, but do not last as long; so if you use these alternatives to DEET on children you must repeat applications more often. And there is always another alternative when all else fails – stay indoors during dusk, night and dawn when most mosquitoes are out looking for blood.

However, we have an uninvited guest now permanently residing in our country that is a day-time biter: the Asian Tiger Mosquito. The adult Asian Tiger Mosquito is easy to recognize by anyone; it is black and white with alternating bands of black and white on its body and legs. It is a *very* aggressive biter, not easily deterred. Gee, aren't we lucky to have this little import? The story is that our little friend came over inside tires from Asia. And speaking of tires, abandoned tires are superb mosquito-breeders so get

rid of any on your property. I once responded to a complaint about mosquitoes at a service station where the owner wanted to know why the county government was, “..not doing *nothin*’ ‘bout all these skeeters” while we stood beside a pile of used tires about eight feet high, all the time slapping at dozens of mosquitoes trying to bite us.

So hold on to your repellants folks! It’s going to be a mosquito-ridden summer! And lastly, remember that mosquitoes carry heartworms and other diseases to your pets and when you rid your property of mosquito breeding habitats you protect them as well.