

## Tips to Avoid Mosquitoes

SACRAMENTO -- The California Department of Pesticide Regulation has a few simple tips to help you minimize exposure to mosquitoes that may carry West Nile virus and other diseases.

State health authorities are already preparing for West Nile virus in California this summer. Last year, more than 4,000 human cases were reported in 44 states as the virus moved westward. (One case originated in California.) While West Nile causes flu-like symptoms in most cases, 284 fatalities were recorded in 2002. Most were elderly persons. The virus is spread when a mosquito first bites an infected bird, and then people. Several species of mosquitoes found in California are potential virus carriers

DPR offers tips and sources of more information to help people reduce their exposure to mosquitoes. (In addition to DPR information available online in English and Spanish, a list of additional contacts and Web sites may be found at the end of this news release.)

### How to eliminate mosquitoes

1. Keep mosquitoes from going airborne. They develop in standing water. A typical backyard can generate thousands of mosquitoes a week, even in small amounts of water. Since several species of mosquitoes prefer to bite close to home, eliminating "skeeter sources" can help. Make sure gutters, pipes, and other water sources drain away from your residence. Don't over-water your yard. Drain water that may have collected in pool and spa covers, flowerpots or barrels. Store containers in an inverted position, or cover them. Don't overlook less obvious water sources, such as tree holes and gutters with plugged downspouts. Fill tree holes with sand or mortar.
2. If you have bird baths, ornamental ponds and fountains, drain and clean them at least once a week, or consider stocking them with mosquito fish (scientific name: *Gambusia affinis*) that feed on mosquito larvae. These fish may be available from your local mosquito control district. (Look in the county government pages of your phone book under "mosquito" or "vector control," or call your county agricultural commissioner to find out how to contact your mosquito district.) Guppies, available at many pet stores, are also 'skeeter eaters, but they may not thrive outdoors.
3. Check your local nursery for a biological control for backyard ponds and fountains. This microbial pesticide, *Bacillus thuringiensis israelensis* -- "B.t.i." for short -- is formulated into doughnut shapes that float. These products slowly release a natural chemical that kills feeding mosquito larvae.

### ONCE BUZZING BEGINS

Once mosquitoes take wing in your area, options are more limited. Pesticide foggers provide only temporary relief. Try to minimize outdoor activity in early morning and at twilight, when the pests are most active. Wear long sleeves, long pants, and socks; tightly-knit clothing may help. Check window screens; repair or replace broken or damaged screens.

If you need a repellent, check the label and read all directions before use. Although reactions to repellents are rare, it is always best to use them sparingly. Moisture, warmth, and carbon dioxide emitted by humans attract mosquitoes and, even in small quantities, repellents can block the receptors on mosquito antennae that lead them to people.

The most common repellent products use the chemical DEET. It has been in general use for more than 40 years and is still considered the most effective chemical repellent, according to mosquito researchers. The non-profit "Consumer Reports" recently tested and rated a number of repellents and concluded that DEET products were highly effective.

Some safety tips for using DEET and other repellents: Start with a low-concentration product and reapply if necessary. It's better to build up to an effective level of protection than to start with more than you need. Do not apply over cuts, wounds, or irritated skin, or near eyes and mouth. Before you apply a repellent to exposed skin, check the label directions. Then use just enough to cover exposed areas, but do not use repellents under clothing.

For children, a low-DEET solution product may be recommended. Do not apply any repellent to the hands of young children, since they often put their fingers in their mouths. To protect infants when outside, opt for mosquito netting over baby carriages or playpens. Avoid breathing repellent sprays, and don't use sprays near food.

For more tips on safe use of repellents, check DPR's "Using Insect Repellents Safely" at [www.cdpr.ca.gov/docs/factshts/repel2.pdf](http://www.cdpr.ca.gov/docs/factshts/repel2.pdf).

DPR currently has about 1,800 products registered for use against mosquitoes in California. These include over-the-counter and professional-use products and repellents. (Products often contain different formulations of the same active ingredient; there are about 60 active ingredients registered in California for use against mosquitoes.)

#### WEST NILE SAFETY TIPS

Jays, crows, ravens, magpies, raptors (owls, hawks), and other species of birds may carry the West Nile virus. Domestic fowl are less susceptible. If you find a dead bird, do not pick it up with your bare hands. Call your vector control agency or the toll-free telephone number: 877-WNV-BIRD (877-968-2473) and follow instructions for pickup.

Vector control agencies around the state will also use more than 200 sentinel flocks of chickens to monitor for the virus in areas where mosquitoes are most prevalent. Sentinel chickens will be tested at regular intervals.

To find links for local California mosquito and vector control agencies, check under [www.sac-yolomvcd.com/links.htm](http://www.sac-yolomvcd.com/links.htm). The statewide association is at [www.mvcac.org](http://www.mvcac.org).

Horses are susceptible to the virus, and an equine vaccine has been developed. The California Department of Food and Agriculture has information: [www.cdfa.ca.gov/ahfss/ah/wnv\\_info.htm](http://www.cdfa.ca.gov/ahfss/ah/wnv_info.htm).

#### More information sources

The California Department of Health Services is the state's lead agency for West Nile virus response. DHS has created a special Web site at [www.westnile.ca.gov](http://www.westnile.ca.gov).

More DPR consumer safety fact sheets can be found at [www.cdpr.ca.gov/docs/factshts/factmenu.htm](http://www.cdpr.ca.gov/docs/factshts/factmenu.htm). DPR's Web site offers links to other sites, such as the University of California at [www.ipm.ucdavis.edu/PMG/selectnewpest.home.html](http://www.ipm.ucdavis.edu/PMG/selectnewpest.home.html).

The Centers for Disease Control site is at [www.cdc.gov/ncidod/dvbid/westnile/index.htm](http://www.cdc.gov/ncidod/dvbid/westnile/index.htm).

Or contact your University of California Cooperative Extension office, listed under county government offices in the phone book.

One of six departments and boards within Cal/EPA, DPR regulates the use of pesticides to protect human health and the environment.

*Posted June 30, 2003*