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DEET as a Mosquito Repellent: What You Need to Know

Jim Wilson

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The spread of West Nile virus in South Dakota has turned attention to mosquito repellents. Questions concerning available products, effectiveness, and safety, especially for children, are being raised. Most species of mosquito are most active during the evening shortly after sundown and again before sunrise. Mosquitoes are attracted to humans primarily because we produce carbon dioxide and lactic acid.

Individuals vary significantly in their attractiveness to mosquitoes. In general, men are bitten more than women and adults are bitten more frequently than children. Some of us itch and scratch and raise welts and some of us barely know a mosquito was around.

While limiting outdoor activity during times of peak mosquito activity is one option, the use of repellents is the next line of defense to reduce mosquito bites.

The most effective mosquito repellent is N,N-diethyl-meta-toluamide, better known as DEET.

DEET has been used in the United States for over 40 years and has a very good safety record. The Environmental Protection Agency (EPA) re-evaluated DEET in 1998 and stated that DEET does not present a health concern to the general public, **if it is used according to label precautions.**

Sensitivity to DEET can vary. Some individuals may develop rashes, redness, or a burning sensation on the skin as well as drowsiness, confusion, weakness and muscle spasms from overexposure.

Children may be at a higher risk of a DEET reaction because they have a higher amount of skin surface area per body weight and because their skin is generally thinner and more tender and therefore may absorb

When using DEET consider the following:

- Read and follow all label directions.
- Wear long, loose fitting clothing to cover as much skin as possible.
- Apply DEET to clothing.
- When using an aerosol, spray on hands and wipe on skin to avoid inhaling mist.
- Apply no more DEET than necessary.
- Use a product with no more than 35% DEET for adults or 30% for children.
- Deet should not be used on children under 2 months of age.
- Do not apply to the hands of small children.
- Wash treated skin of small children with soap and water as soon as they return indoors.
- Consider netting or a veil for children under 2 years of age.
- Do not apply DEET to skin that is cut or abraded.
- Pregnant women should limit the use of DEET when practical.

ALWAYS

- **READ AND UNDERSTAND** the label of the particular DEET product you are using.

DEET more readily. The American Academy of Pediatrics recommends using a product containing no more than 30% DEET concentration on children. This also assumes that an average amount of product is used. If an excessive application of a diluted DEET product is used, the chances for a reaction increase.

Approximately 230 products that contain DEET are sold in the U.S. Concentrations can vary from 4% to

100%. Concentrations over 35% provide little additional control when weighed against the increased potential for overexposure.

Formulations also vary. Products formulated with alcohol may increase the potential for DEET to absorb through the skin but may also make the product more effective. Check the ingredient section of the product closely if you are sensitive to DEET.

**Other sources of information on mosquito repellents
(All were accessed and available on 8/21/02.)**

<http://www.epa.gov/pesticides/citizens/deet.htm>

<http://www.epa.gov/pesticides/citizens/insectrp.htm>

<http://www.acponline.org/journals/annals/01jun98/mosquito.htm>

<http://ace.orst.edu/info/npic/factsheets/DEETgen.pdf>

<http://www.mosquito.org/mosquito.html>

This publication and more information on West Nile virus and other topics can be accessed electronically from the SDSU College of Agriculture & Biological Sciences publications page, which is at <http://agbiopubs.sdstate.edu/articles/ExEx8146.pdf> or from the Extension Service Website at <http://sdces.sdstate.edu/>



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