

# Preventing pesticide exposure in and outside the home

August 26 2011, By Amanda Harper

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(Medical Xpress) -- Pests come in all shapes and sizes ... from a persistent flower-eating beetle determined to destroy your prize-winning garden to stinky mildew invading your morning shower.

Consumers have access to countless products that magically make these problems disappear with the squirt of a bottle, but many don't realize that those products contain chemicals that could cause their families harm if used in excess.

"A lot of people mistakenly equate the word 'pesticides' exclusively with insecticides used to kill bugs, but pesticides also include herbicides, fungicides and various other substances," explains Mary Beth Genter, PhD, a toxicologist and professor with UC's environmental health department. "Many common consumer products—kitchen and bath disinfectant sprays, flea and tick prevention pet products, personal insect repellents, even some hand sanitizers—contain pesticides."

She notes that hand sanitizers that contain just ethyl alcohol (typically 60 to 70 percent) are classified as antiseptics, not pesticides. However, if they contain an antimicrobial such as triclosan, they would be classified as pesticides.

According to the U.S. Environmental Protection Agency (EPA), pesticides are a large class of substances intended to prevent, destroy, repel or mitigate pests—which can range from micro-organisms like bacteria and viruses targeted by antimicrobial agents to algae growing in

lakes or pools targeted by algicides.

"By the nature of what they are—chemicals designed to kill other things in our environment—pesticides can pose some risk to human health, particularly if they are used inappropriately," says Genter.

More is not always better when it comes to pesticides and Genter says consumers are often their own worst enemies.

"The pesticides available at your local garden center—for instance, weed killers—were formulated and packaged very specifically to protect human health. The worst thing someone can do is disregard those instructions— both when applying and handling the product," she explains.

Genter offers these tips for reducing your family's risk for pesticide exposure:

- **Read and follow pesticide product labels.** If there is ever a time to follow instructions to the full measure, handling pesticides is that time. This includes restricting access for children and pets while the treated area dries. You should also wear the protective gear indicated on the label while applying a pesticide in and around the home—often gloves and/or long sleeves/pants. Genter says it is also a good idea to change clothes immediately following application.
- **Have well water tested.** Municipal water sources are tightly monitored for pesticide exposures, but rural water wells can often become contaminated from pesticide-laced water runoff from surrounding farms. This situation, especially when the contamination also includes fertilizers, can be very dangerous to infants. People living in homes with private wells should have their water quality assessed frequently. The EPA recommends testing before ever using a private well and before

giving well water to an infant. They also recommend annual testing for nitrates and bacteria as well as other chemicals if a problem is suspected. "The issue is that testing for bacteria and nitrates is pretty inexpensive, but analysis for pesticides and other chemicals is quite costly and can only be done by certified labs," adds Reponen.

- **Use non-chemical methods of controlling pests.** Pests exist in environments that promote their livelihood—for example, mosquitoes breed in standing water. Removing that source will help reduce the pest burden without the need for chemicals.
- **Buy locally grown food.** Produce is often grown thousands of miles away from the people who end up consuming it. This not only makes it hard to verify where and in what conditions your food was grown, but it also increases the likelihood that products have been added to the food or food containers to preserve the food. For example, it is common for fruit containers or even fruit itself to be sprayed with fungicides to prevent mold.
- **Consider organic produce.** Farms do not become organic overnight—the U.S. Department of Agriculture (USDA) requires that farms abstain from pesticide and synthetic fertilizer use for three years prior to applying for certification as an organic farm. Once certified, the farms must provide regular documentation to show the fields are still pesticide free. Studies are inconclusive about whether organic produce is more nutritious, but choosing to purchase USDA organic produce can help reduce pesticide exposure through the foods you eat. Thoroughly washing and peeling vegetables prior to cooking can reduce ingestion of pesticide residues.

The National Pesticide Information Center (1-800-858-7378) can provide information about pesticide products and their toxicity. In the event of an emergency, first call 911. If a person swallows or inhales a

pesticide, call the Poison Control Center at (800) 222-1222 for first aid information.

Genter adds that un-used [pesticides](#) should be disposed of as directed on the packaging. Hamilton County residents periodically have an opportunity to dispose of hazardous chemicals during community collection days. For more information, visit [hamiltoncountyrecycles.org](http://hamiltoncountyrecycles.org).

Provided by University of Cincinnati

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