
THE PESTICIDE REVIEW

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Santa Clara County Division of Agriculture

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Routes of Pesticide Exposure

Dermal, Oral, Inhalation...

The three routes pesticides usually enter the body are through the skin, mouth, or through the lungs.

Dermal

The most common route for pesticide exposure is through the skin. The danger of dermal exposure is dependent upon the toxicity of the material, the concentration of the material, and whether the material is in liquid or solid state. Most materials can be easily absorbed in liquid form, but will usually have a lower absorption rate when they're in solid form.

In addition to the chemical properties of the material, dermal exposure can vary greatly from one part of the body to another. Surprisingly, different parts of the body will absorb materials at different rates. Most pesticide labels say to wash your hands before you eat, smoke, or use the bathroom and there is a very good reason for this precaution. The absorption rate of the

forearm has a rating of 1. The palm of the hand has a rate of 1.3 and the forehead has a rate of 4.2! That means the forehead absorbs materials 4 times the rate of the hand. So, if you wipe your sweaty brow on a hot day with your pesticide-contaminated gloves, you could be doing more harm than if you were to have spilled the material on your hands! Even more dangerous is the genital area. The genital area has an absorption rate of 11.8! If you don't wash your potentially contaminated hands before you use the restroom, the absorption rate is so high, it could take a very small amount of material to have a dangerous exposure!

Oral

Oral exposure to pesticides is rare, but can happen when pesticides are mistaken for food or drink, accidentally splashed into the mouth, or sadly, sometimes they are purposefully swallowed.

The most common cause for accidental oral exposure is when an unsuspecting person drinks or eats from a food container that has been used to store pesticides. Unfortunately, children under the age of 10 account for at least half of the accidental pesticide deaths in the United States. It is imperative that pesticides are NEVER placed in containers commonly used for food or household products!

Inhalation

Respiratory exposure to pesticides can be dangerous because the particles that make it into the lungs can be absorbed quickly. Our lungs have an extremely large surface area and are designed to facilitate gas exchange. This feature can make inhaling pesticide vapors or small particulates very dangerous.

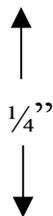
It is important to read your pesticide labels carefully and follow the respiratory protection equipment warnings!

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Raglius alboacuminatus

"The Blossom Hill Bug"



During the summer of 2002, our office received numerous phone calls from residents in the Blossom Hill / Snell Road area in San Jose. The residents told us they were having problems with a bug entering their homes in large numbers. We inspected the site and observed hundreds of these insects pouring out of an open field into the nearby landscape and homes. We didn't recognize the insect and collected a sample of what we called "The Blossom Hill Bug" to send to the State Laboratory. When several weeks went by with no word from the laboratory, we contacted them and learned we stumped the experts in Sacramento! They had a guess to the genus of the insect, but sent the sample to the United States Department of Agriculture's Laboratory in Maryland for further identification.

In October of 2002, a researcher from the lab in Maryland contacted our State Laboratory and informed them the insect was a *Raglius alboacuminatus*. This was the first collection of this insect in California and only the second collection of this insect in North America.

The first North American collection of this insect was in Utah in the year 2000. The insect in Utah was exhibiting the same behavior as the insects in California. They came to the attention of Utah residents in late summer when the insect exited nearby fields by the thousands.

Raglius alboacuminatus is a seed-eater and we are not sure why it leaves its food source during the late summer. It could be they are in search of water, it may be a mating behavior, or perhaps they might be looking for shelter before the impending winter. Unfortunately, we don't have any solutions for homeowners in the area. Perimeter sprays don't seem to work too well. If you have an account in the area and found a product that works well to keep this insect out of a home, please let us know so we can pass along the information.



Interpreting the Law, Literally

Restrictive versus permissive language

One of the most common words found in written law is "shall" and "must". The reason for using these words is to convey a requirement. "You shall do this", or "you must do this", is not a suggestion; it's something that must be done.

In addition to restrictive words, direct sentences will also control actions. You will find many examples of direct sentences on pesticide labels, such as: "Keep out of the reach of children", or "Only apply this pesticide to the crops listed on the label."

When restrictive words or direct instructions are given in law or on a pesticide label, they must be followed. Failure to follow a direct instruction is clearly a violation of law.

Permissive Language:

The opposite of restrictive language is permissive language. It is rare to find permissive language in law, but it can be found on pesticide labels. Permissive words are things such as, "should", "could", or "may". Because these words are permissive, an applicator can choose to follow or not to follow a permissive suggestion found on a label.

Examples of permissive sentences are: "Any tank mix containing this pesticide should be kept agitated and sprayed out immediately", or "Prior to treatment, carpets should be vacuumed." Because these sentences are permissive, an applicator can choose not to follow these label suggestions.

Even though pesticide labels may have a permissive statement on them, you have to be aware of pesticide laws, which may impose a specific use requirement. For example, if a label has a sentence such as, "applicator should wear eyewear", the applicator must follow any laws that supersede the label suggestion. Even though the label is permissive, the law is not. If the applicator is an employee, Title 3, California Code of Regulations Section 6738(b) requires all employees to wear protective eyewear when applying pesticides. An employee will have to wear the eyewear because in this case the law supersedes the label suggestion.

If you should have any questions regarding any label or regulatory requirement, call your local Agricultural Commissioner's Office. We will give you a definitive answer to any label or regulatory questions.

Dispelling the Rumors About Department of Fish & Game's Trapping Laws

Fish and Game Code Sections 4005,4152,4180

In January 2003, changes to the California Fish and Game Code required pest control businesses that trap mammals for hire to be licensed through the California Department of Fish and Game (DFG). This license requirement applies to businesses performing live capture or dispatching captured animals on-site.

There have been rumors claiming DFG created this new law to increase their revenue through licensing fees. After speaking to several DFG officials, we know this not to be true. These changes were submitted by animal rights groups with the help of Senator Byron Sher. DFG never intended to license pest control companies already required to be licensed through DPR or the Structural Pest Control Board. DFG is working to submit new legislation to exempt structural pest control companies from the new license requirement. We will update you as soon as we hear of any changes. In the interim, businesses must be licensed by DFG if they trap animals for hire.

Calif. officials nearly fall for H₂O hoax

*March 15, 2004
Associated Press*

ALISO VIEJO, Calif. -- City officials were, according to this story, so concerned about the potentially dangerous properties of dihydrogen monoxide that they considered banning foam cups after they learned the chemical was used in their production.

Then they learned, to their chagrin, that dihydrogen monoxide—H₂O for short—is the scientific term for water.

City Manager David J. Norman was quoted as saying, "It's embarrassing. We had a paralegal who did bad research."

The paralegal apparently fell victim to one of the many official looking Web sites that have been put up by pranksters to describe dihydrogen monoxide as "an odorless, tasteless chemical" that can be deadly if accidentally inhaled.

Crack and Crevice Treatments



The definition of crack and crevice

The definition of "crack and crevice" is the small openings where insects hide or through which they may enter a building. Examples include expansion joints, wall voids, or the space between baseboards and walls. The idea of crack and crevice treatments is to apply pesticides into areas inaccessible to homeowners, children, or pets.

It's important for pesticide applicators to use appropriate application equipment when they apply pesticides to these small openings. If an emulsifiable or oil-based pesticide is used, the pesticide equipment must be able to deliver a pin stream of pesticide. If a dust or fine granular material is used, a bulbous duster or other suitable equipment should be used to apply the material.

Some pesticide products designed for crack and crevice treatments will have statements restricting their use to inaccessible areas. If the pesticide lands outside of the intended target area, it is imperative the material is cleaned up before the applicator leaves the area. Leaving a pesticide in an area accessible to people not involved in the application process is a serious violation!

REGIONAL IPM CONFERENCE

Where: Santa Clara County Government Center

When: June 7, 2004

Time: 8:00 a.m. - 4:30 p.m. (reg. starts at 7 a.m.)

C.E.: 6.5 - 7.5 credits depending on what breakout session you attend. (DPR & SPCB credits pending)

Fee: \$45.00 (must register by May 20, 2004)

For more information, go to our website and click on our continuing education page.

Contact Corner

If you have questions, comments, or would like to suggest a subject for an article, please write to:

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