Environmental Monitoring

Department of Pesticide Regulation/CalEPA

Protecting surface water

DPR Surface Water Protection Program

Department of Pesticide Regulation
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Surface water publications

www.cdpr.ca.gov/docs/emon/surfwtr/pubs.htm

Single copies of this handout are available from DPR by calling (916) 445-3974, or can be downloaded from DPR's Web site: www.cdpr.ca.gov under "Consumer Fact Sheets"

What our scientists do

The Department of Pesticide Regulation (DPR) protects surface water, like creeks and ponds, by testing for the presence of pesticides in the environment, adopting rules to minimize contamination, and educating farmers and commercial pesticide applicators on the safe and effective use of pesticides.

DPR's Surface Water Protection Program (SWPP) is the front line in this effort.

SWPP staff help develop U.S. Environmental Protection Agency "benchmark" levels — or, permissible limits — for individual pesticides.

SWPP scientists also create computer models to evaluate new active ingredients in pesticide products. Model results may lead to extra controls before a new or revised product can be used in California. Computer models are also used to help develop a "watch list" of pesticides for monitoring and to prioritize that list.

Using this list, SWPP ensures that analytical methods are available to test for those pesticides in surface water, sediment, and/or waste streams. In addition, models are used to assess the effectiveness of mitigation measures.

The next steps

Evaluation of New Pesticide Products

SWPP scientists evaluate certain new pesticides and new uses of old pesticides proposed for registration for their potential to contaminate surface water and sediment. The scientists then make recommendations regarding a pesticide's registration.

Monitoring and Data Collection and Analysis

SWPP designs and conducts monitoring to assess pesticide contamination of surface water and sediment using a network of agricultural and urban monitoring locations that are sampled over time.

This involves identifying and prioritizing active ingredients that warrant surface water monitoring based on the amount and location of pesticide use and pesticide toxicity to aquatic organisms. SWPP also works to streamline analytical methods that allow for a greater number of analyses from a single sample.

SWPP maintains a comprehensive database of surface water monitoring results. The database can be used to help identify pesticides of concern, crops or other application sites associated with contamination, water bodies where contamination is occurring, and trends in contamination over time. SWPP analyzes monitoring results from individual studies and from aggregate data in the database, and identifies pesticides that may need mitigation.

Mitigation

When a pesticide's use is causing significant surface water contamination, DPR can take various actions, including reevaluation, identification of management practices to mitigate the contamination, outreach to encourage voluntary efforts, and adoption of mandatory regulations.

Reevaluation requires pesticide manufacturers to submit additional data regarding the source, mechanisms, and mitigation of the contamination. SWPP scientists also may conduct research to characterize the factors that lead to off-site movement and to develop use practices to prevent such movement. SWPP may contract with university researchers to study the impacts of pesticides in agricultural and urban environments.

DPR also uses its regulatory authority to impose restrictions. DPR may modify the use of pesticides by regulation or permit conditions to prevent excessive residues from reaching surface water. Mitigation may include outreach to educate the public on ways to reduce pesticides in urban waters and programs targeted at changing use practices among agricultural pesticide users. Pesticide manufacturers may insert mitigation language voluntarily on their labels.

If contamination cannot be mitigated, DPR may cancel use of the pesticide. Current surface water regulations address specific uses of pesticides containing tributyltin, copper, dormant insecticides, and pyrethroids.

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