

Addressing Public Concerns about Pesticides



DPR helps fund Spray Safe, a grower-sponsored program that encourages communication between farmers about planned pesticide applications.

As California's population continues to grow, increasing numbers of people live and work near farms. This presents a continuing challenge for pesticide regulators, in part because urban residents and farmers may have different perspectives on the purpose and value of farmland. To growers, farmland is an economic resource supplying food and fiber to the world. For farmers, encroaching development often means constraints on routine operations such as pesticide applications, liability for trespassers, problems with theft and vandalism, and urban drivers on rural roads. Urban-oriented Californians value the open space farmland provides, a bucolic vision at odds with the noise of tractors at night, odors of animals, dust during plowing, and pesticides and fertilizers being sprayed near homes and schools. Those living next to farms often fear that agricultural pesticide use puts them at risk.

California has the nation's strictest pesticide laws and regulations. Pesticide sales and use are tightly controlled. However, many of agriculture's newest urban neighbors consider these controls inadequate. They are concerned about toxic chemicals, including pesticides, and want a say in what will be used and when. Some farmers may view this as unwarranted interference in their business. The resulting friction has often escalated into conflicts that see disputing parties turn to local officials, including county agricultural commissioners (CACs), pesticide regulators, and the media for resolution.

PROMOTING COOPERATION AND UNDERSTANDING

Since pesticide use is often the flash point of ag-urban conflicts, DPR has launched several projects to promote better understanding and cooperation among neighbors.

For example, DPR contracted with the University of California (UC) Agricultural Issues Center to hold a 1995 workshop to address conflicts and solutions where urban development lies next to commercial agriculture. UC published workshop proceedings and continues to study the issue. DPR has provided training to CAC staff on how to hold public meetings on volatile issues.

Spray Safe and Neighbors at the Edge

In 2006, DPR provided a \$50,000 grant to help expand Spray Safe, a grower-sponsored effort aimed at reducing drift incidents by strengthening farmer-to-farmer communication when pesticides are scheduled for application. Spray Safe was first established in Kern County after series of incidents where drift affected large numbers of residents in several rural communities. Spray Safe distributes a checklist to remind farmers and applicators about precautions to take when applying pesticides. The program also sponsors annual meetings with growers, applicators and regulators to review regulations governing pesticide use.

The Spray Safe Kern Project complemented a DPR-funded pesticide application notification system pilot effort in Kern County designed to improve protections to workers and others from pesticide drift. Set up in 2007 in southeast Kern County, this notification and communication system sends an e-mail to every neighboring grower regarding proposed application of a restricted material. The e-mail includes the name of the grower, the location, the name of the restricted material to be applied and the date of the proposed application. The e-mail also contains a map of the pro-

posed application site along with grower contact information in case a neighboring grower needs to confer with the grower of the proposed application.

In 2014, DPR contracted with the UC Cooperative Extension to hold four workshops statewide entitled *Neighbors at the Edge*, which allowed land use planners, CACs and other public officials to meet and discuss solutions to mitigating agricultural-urban conflict.

Northwestern California Tribal Territories Herbicide Monitoring Project

In parts of California, Native Americans have voiced concerns over the use of herbicides in private and public forests, in agricultural areas near ancestral territorial lands and along roadsides and other rights-of-way. Their concerns have focused not only on the effect applications may have on forest plants that are the source of traditional foods, medicines and basketry materials, but also on the effect of off-site movement to rivers, streams and other sources of drinking water, and fish and wildlife habitats.

These unique exposure scenarios are not specifically addressed in risk assessments conducted by regulatory agencies. Although the U.S. Forest Service and the California State Transportation Agency have programs to work with tribal representatives to identify and protect designated areas from herbicide spraying, not all tribes participate. In addition, tribal members may collect plant materials in unidentified locations.

At the request of several tribes in northwestern California, DPR in the mid-1990s began working with the U.S. Environmental Protection Agency to resolve their concerns. U.S. EPA provided funds to DPR and area CACs to hold community meetings with Native Americans to identify joint projects to address concerns about the effect of pesticide use on their communities. As a result, the Environmental Monitoring Branch began a multiyear project in 1996 to monitor surface waters, plants and other natural resources for residues of pesticides used in reforestation, weed control and agriculture. The final project report in 1999 found that some herbicide residues drifted outside the forest areas treated. However, pesticide concentrations in water samples were below U.S. EPA's drinking water standards and any other federal or state-recommended level for freshwater protection. Four plant species were monitored to determine the dissipation time for herbicides after application. Eighty days after treatment, low residue levels were found. Samples of fish showed no measurable levels of herbicides tested.

Lompoc Air Contaminant Project

In 1993, DPR began looking into health concerns of residents in the Santa Barbara County community of Lompoc and the surrounding valley (population roughly 43,500). Residents were concerned that pesticide applications in the vegetable- and flower-growing region were causing health problems. Working with the CAC, DPR staff held several community meetings to discuss health symptoms, pesticide exposure, exposure to dust and pollen, effectiveness of regulatory controls in protecting citizens from pesticide exposure, quantities of pesticides used in the area, and available alternatives to pesticides. To allay community concerns, the CAC had placed several restrictions on pesticide applications in the area, including buffer zones around schools and homes. In 1995, DPR staff completed a report on pest management practices in the Lompoc Valley with an emphasis on crops grown, their associated pests and pest control practices, including use of pesticides and alternative pest control methods. In 1998, DPR completed an analysis of weather patterns in Lompoc. This analysis compared weather in Lompoc to 11 other coastal areas in California. The analysis indicated that pesticide air concentrations could be higher than the comparison areas because of differences in weather during some periods of the year.



In response to community public health concerns, DPR conducted air studies in the 1990s in Lompoc, Santa Barbara County.



DPR participated in a 2010 CalEPA investigation into birth defects in the Kings County town of Kettleman City.

In 1997, DPR formed the Lompoc Interagency Work Group (LIWG) to better coordinate efforts to find out if Lompoc residents suffered a disproportionate rate of illness and if so, to discover the cause. The LIWG included community representatives and scientific staff from federal, state and county agencies. The LIWG formed several committees to develop recommendations addressing health concerns, to conduct a pesticide air monitoring strategy and to consider potential exposures from other environmental factors found in the area, such as crystalline silica, radon, pollen and mold.

At DPR's request, California Environmental Protection Agency (CalEPA) Office of Environmental Health Hazard Assessment (OEHHA) evaluated illnesses in the Lompoc area. OEHHA examined 1991 through 1994 hospital discharges, birth defect rates and cancer incidence. OEHHA reported in 1998 that respiratory illnesses, in particular asthma and bronchitis, appeared to be elevated in Lompoc with respect to comparison areas. However, a later analysis that included data through 1997 found few significant differences in illness rates between the Lompoc area and similar communities.

To find out if pesticides were moving from farm fields to nearby residential areas, DPR conducted preliminary monitoring for 12 pesticides in 1998. In 2000, DPR conducted more extensive air monitoring for 29 pesticides or breakdown products widely used in the area and of potential health concern. Of the 31 pesticides or breakdown products monitored in the two parts of the study combined, DPR detected 27 pesticides in one or more of the 241 samples collected. However, air concentrations were low compared with health screening levels.

Because diatomaceous earth is mined in the Lompoc Valley, CalEPA's Air Resources Board monitored for crystalline silica in 2001. No significant amounts were found.

Kettleman City project

In 2010, CalEPA and the state Department of Public Health (DPH) conducted environmental monitoring as part of an investigation of an apparent increase in the number of infants born with birth defects after 2006 in Kettleman City, in Kings County. Scientists from each of CalEPA's board and departments, including DPR, participated in the project, assessing potential contaminants and testing for chemicals that could cause birth defects and other adverse health effects.

Experts from various scientific disciplines worked collaboratively to examine a wide range of medical, environmental and other factors that might reasonably be associated with the reported birth defects. DPR compiled information for 19 pesticides used within five miles of Kettleman City between late 2006 and 2009. DPR then estimated airborne pesticide levels in the community during that period. In the summer of 2010, DPR also tested air for 27 pesticides, including four that could cause birth defects. The results showed that it was very unlikely pesticides caused the birth defects. Tests of agricultural soil found no evidence of pesticide levels that pose a health risk concern.

CalEPA's investigation found levels of environmental pollutants in the air, water and soil of Kettleman City comparable to those found in other San Joaquin Valley communities. The agency's comprehensive investigation did not find a specific cause or environmental exposure among the mothers that would explain the increase in the number of children born with birth defects in Kettleman City.

INCORPORATING ENVIRONMENTAL JUSTICE CONSIDERATIONS INTO DPR PROGRAMS

Environmental justice (EJ) is defined in law as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation and enforcement of environmental laws, regulations and policies" (Chapter 690, Statutes of 1999). CalEPA is designated as the lead agency in state

government for environmental justice programs. The law requires the agency and its boards, departments and offices to:

- Ensure their programs are conducted in a manner that provides fair treatment of all races and income levels.
- Promote greater public participation in the development and implementation of environmental policies.
- Improve research data collection for environmental programs related to the health and safety of minorities and low-income populations.

Parlier Air Monitoring Project

In 2002, CalEPA developed its Environmental Justice Action Plan which tasked the boards, departments and offices to conduct pilot projects that “focus on environmental risk factors (including emissions/discharge, exposure, and health risk) that impact children’s health.” Because rural, agricultural communities may have higher concentrations of pesticides in ambient air compared with their urban counterparts, CalEPA asked DPR to postpone its planned Air Monitoring Network and instead conduct focused air monitoring for one year in a Central Valley farming community.

DPR’s goal was to find out what amounts of pesticides, if any, were in the air of a rural community. DPR also wanted to evaluate people’s exposure to these pesticides and identify opportunities to reduce health risk, particularly to children. The project differed from those conducted previously by DPR in that before work began, the department sought extensive public comment on project priorities and in selecting a community for monitoring. DPR evaluated 83 Central Valley communities on several EJ-related demographic factors (for example, number of children and nonwhite population), and for the relative use of pesticides the project was to monitor. DPR also considered air sampling feasibility, weather patterns, monitoring stations for other air pollutants, availability of data on pesticides in ground water, and the potential for collaboration with organizations planning complementary or related studies.

With their EJ orientation, all Action Plan projects stressed public participation. A key element was inclusion of Local Advisory Groups (LAGs) to provide input on how each project should be carried out. Although not a decision-making group, the 18-member Parlier LAG formed by DPR had a significant impact on how the department conducted the project. The LAG helped select pesticides to monitor, sampling sites and monitoring frequency. The LAG approved delaying the start of monitoring until January 2006 so DPR could spread the costs of the project over two fiscal years, allowing monitoring to be done more often and at more sites. CalEPA also encouraged use of the Internet to widen opportunities for public participation. DPR posted LAG meeting agendas and minutes, preliminary project results and the final project report on its website. (*For more information on the Parlier project, see Chapter 10.*)

Air Monitoring Network

In 2010, DPR began a long-term project to sample ambient air in the farming communities of Ripon, Shafter and Salinas. DPR uses data gathered to evaluate and improve protective measures against pesticide exposure. To select monitoring sites, DPR staff evaluated 226 candidate communities. Among other factors, staff considered demographic criteria related both to environmental justice and DPR programmatic priorities, for example, number of children under 18, representing a subpopulation DPR considers in its risk assessments. (*For more information on the Air Monitoring Network, see Chapter 10.*)

In 2016, DPR reassessed its monitoring locations and other aspects of its Air Monitoring Network. DPR selected eight communities for monitoring, including



The air monitoring station in Parlier.



DPR's toll-free Pest Line aids callers in contacting a local agricultural commissioner to report pesticide incidents.



DPR's 2013 Strategic Plan and information about DPR's strategic planning can be found online: <http://www.cdpr.ca.gov/docs/dept/planning/stratmenu.htm>

continuing monitoring at Shafter. DPR evaluated 1,267 communities and selected four communities based on high use fumigant pesticides and four communities based on high use of organophosphate pesticides. (For more information on the Air Monitoring Network, see Chapter 10).

Strategic planning

DPR has also incorporated EJ considerations into the strategic plans that guide department priorities and programs. DPR's 1997 Strategic Plan called for the department to improve its "responsiveness to public concerns about pesticide application and potential impacts." In the next strategic plan in 2001, one of four goals was to "Ensure environmental justice." The objectives to achieve it focused on improving enforcement, "recognizing that strong enforcement of pesticide laws is the cornerstone of improving the regulatory program and reducing potential risk."

DPR's 2008 and 2013 Strategic Plan revisions ensured environmental justice was among five goals. "All Californians, regardless of race, age, culture, income, or geographic location, are protected from adverse environmental and health effects of pesticides," the 2013 plan says.

Meeting EJ concerns

DPR has also worked to meet EJ concerns identified by stakeholders. For example, in a series of "listening sessions" DPR sponsored in 2004, community members brought several EJ issues to the department's attention. Community members asked the department to improve public participation, outreach, field enforcement, and recognition and reduction of pesticide-related illnesses. They also advocated reinstatement of the Integrated Pest Management grants and doing more to encourage the adoption of least-toxic pest management strategies, particularly in public housing and government buildings. (The Alliance program was restored in 2007. See Chapter 11 for more information. For improvements to enforcement, see Chapter 2.)

In 2005, DPR formed a workgroup of stakeholders from EJ organizations, regulated industries and other interested parties to develop advisory recommendations to guide the department's development of an EJ implementation plan. The workgroup had 10 facilitated meetings between July 2006 and April 2007. With the assistance of a consulting firm that managed and facilitated the meetings, the workgroup presented a series of recommendations to DPR.

DPR moved to address concerns raised in the listening sessions of the 2006-2007 EJ Work Group. DPR had been criticized for failing to provide information on how to recognize and report pesticide problems to communities affected by pesticide use. To help address this, in late 2006 DPR launched the automated, toll-free phone line Pest Line (1-87PestLine) that provides CAC phone numbers and then offers to transfer the caller to the appropriate CAC office. The automated service, in English and Spanish, is designed to encourage timely filing of pesticide complaints—a key to successful investigation.

In 2008, DPR expanded worker safety outreach by assigning a full-time, bilingual staff member to liaise with worker advocates, health professionals and community workers. This outreach specialist works with other DPR staff to provide information on pesticide safety and the rights of employees to file confidential complaints about pesticide exposure. Each year, DPR staff takes part in more than 30 community meetings, health conferences and other events to promote pesticide safety for workers and their families. Staff also promotes pesticide safety in guest appearances on Spanish-language media outlets in the Central Valley

In 2008, DPR published its *Community Guide to Recognizing and Reporting Pesticide Problems* in both English and Spanish. The 34-page guide offers plain-language explanations that focus on practical solutions for real-world situations. The guide has become a popular reference for public health agencies, emergency

responders, community advocates, industry, local government officials and individuals with pesticide questions or complaints. Topics include step-by-step instructions on what to do in a pesticide emergency, a discussion of pesticide drift and odor, and a checklist to use when reporting a pesticide incident. The guide was prepared in consultation with CACs, who act as DPR's local enforcement agents. The first printing of 5,000 English copies ran out quickly. DPR printed several thousand more copies early in 2009, including a Spanish-language version targeted for distribution at ethnic venues. DPR posted the guide online and sent it to more than 900 community health centers, county health departments and to every public library in the state. California Poison Control Centers use it for staff training. DPR outreach specialists distribute it at and other safety information at health and community fairs in Latino communities.

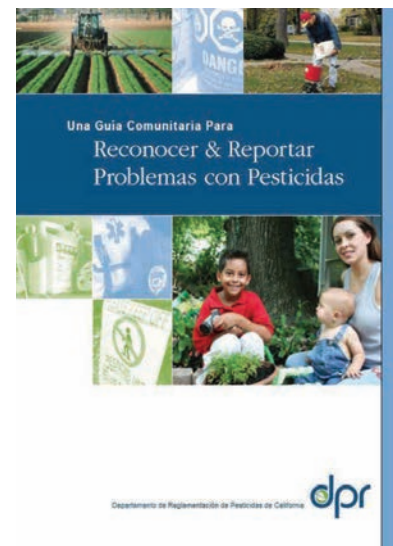
DPR staff have also conducted training for emergency personnel on how to respond to pesticide incidents. In cooperation with CalEPA's Office of Environmental Health Hazard Assessment, they also worked with community clinics and medical organizations to conduct physician training on recognition of pesticide-related illnesses. In 2011, DPR funded a project to train Latino community members who serve as liaisons between their community and health and social service organizations on how to recognize symptoms of pesticide exposure, the importance of reporting suspected exposure, and where to refer exposed persons to obtain advice, and/or medical care.

The department has taken steps to ensure public participation in regulatory processes, in particular potentially affected parties that might otherwise be overlooked or excluded. In 2006, DPR opened the process of selecting pesticides for risk assessment to public comment and posted more than two dozen completed risk assessments online. DPR is also making risk management more transparent and open to public comment. (Risk management is how DPR decides whether an assessed risk presents a public health concern and, if so, what can be done to reduce the risk.) For example, in 2007, DPR held two public workshops in Tulare to obtain feedback on proposed controls for pesticides that generate methyl isothiocyanate (MITC). These workshops were held in English and Spanish.

DPR routinely schedules regulatory hearings outside the Sacramento area at times and places convenient to local residents, with simultaneous translation into Spanish. Key rulemaking documents are routinely translated into Spanish. To further increase transparency in decision-making, in 2007 DPR required all program managers and supervisors to take five days of training on how to ensure the public was more involved in the decisions they make on policies and activities. DPR set up an e-mail Listserv focusing on EJ and routinely sends out announcements about web postings of interest, public meetings, regulatory developments and activities of interest to EJ stakeholders.

DPR staff also took part in the U.S. EPA Border 2012 project, a state and federal initiative to help Mexican agencies set up and manage pesticide safety programs. For example, DPR staff assisted in training Mexican growers and applicators on the safe use of pesticides.

For information on DPR's Environmental Justice programs, see <http://www.cdpr.ca.gov/docs/envjust/>



Community Guide to Recognizing and Reporting Pesticide Problems.



As part of its environmental justice efforts, DPR works with community groups like the Fresno Environmental Reporting Network to monitor and help solve issues that threaten the health of community members.