



## *Department of Pesticide Regulation*

### *Environmental Justice and Farm Worker Safety Accomplishments*



The Department of Pesticide Regulation (DPR) is committed to working with government agencies, communities, advocacy groups, regulated industries, and other parties to ensure environmental justice (EJ). DPR works to incorporate EJ and farm worker safety into programs, goals, and activities. DPR has taken steps to ensure public participation, strengthen field enforcement and compliance, reduce risk and conduct outreach to workers and others who may be impacted by pesticide use.

#### *Strategic Plan*

In 2008, DPR revised its departmental Strategic Plan to include EJ as a stated goal: “Ensure environmental justice - All Californians, regardless of race, age, culture, income, or geographic location, are protected from adverse environmental and health effects of pesticides.” The plan was updated in 2013 [[download here: http://www.cdpr.ca.gov/docs/dept/planning/stratmenu.htm](http://www.cdpr.ca.gov/docs/dept/planning/stratmenu.htm)]

#### *Fumigants*

- **Methyl Bromide Field Fumigation Regulations:** Methyl bromide is used to fumigate soil prior to planting. These regulations were the final in a series adopted to increase protection for the public and workers from the hazard of exposure in and around fields where methyl bromide is used. The regulations revised previous limits on the amount of methyl bromide that can be applied in any calendar month in any township, prohibited less-restrictive deviations from buffer zone size and duration from those recommended by DPR, revised maximum employee work hours in any 24-hour period while engaged in the injection of methyl bromide, and tightened up the regulations requiring workers to wear respirators when engaged in field fumigation.
- **Strawberry Research Partnership and New Research Grant Program:** DPR and the California Strawberry Commission launched a research partnership to explore ways to grow strawberries in peat or substances other than soil to reduce the threat of soil pests and diseases and thus reduce the use of pesticides. In addition, research grant funds totaling \$1 million are available in fiscal years 2012/13 and 2013/14, and \$500,000 annually in future years will be allocated to develop practices that reduce use of high-risk pesticides and the risk of unanticipated effects on public health and the environment. Priority research topics include reducing risks from field agricultural fumigants and organophosphate insecticides.



- **Strawberry Working Group:** DPR convened a diverse work group of scientists and other specialists to develop a five-year action plan to accelerate the development of management tools and practices to control soil-borne pests in strawberry fields without using fumigants. The 10-member work group released its plan in April 2013.
- **U.S. EPA Soil Fumigant Promotores Workshops:** The goal of this project was to educate workers and bystanders about proper soil fumigation techniques, how to recognize potential problems, and where to report potential problems. Three Spanish language workshops were conducted by bilingual U.S. EPA Region 9 staff with collaboration from bilingual DPR Worker Health and Safety staff. The workshops were conducted in the fall of 2012 at locations in Tulare, Santa Barbara, and Monterey counties. Santa Barbara and Monterey counties both are in the top five methyl bromide use counties in the state.
- **DPR Soil Fumigant Training:** U.S. EPA's new label restrictions for soil fumigants went into effect December 1, 2012. DPR reconciled these tougher restrictions for buffer zone distances, acreage limitations, emergency preparedness, response requirements, and other measures with existing California laws and regulations to ensure the most restrictive requirements were implemented. DPR and U.S. EPA conducted six training sessions statewide for county agricultural commissioner (CAC) enforcement staff. The training sessions included an overview of the new federal requirements, how to evaluate restricted material permit applications, how to conduct field inspections, and how to implement the new labels in accordance with California requirements. More than 200 county staff attended the sessions.



*Pesticide Safety*

- **Creation of New Subcategory for Qualified Applicator Certificates:** Prior to the adoption of this regulation, maintenance gardeners were required to take and pass a Qualified Applicator Certificate examination in Landscape Maintenance Pest Control to use pesticides in their gardening business. The examination for this category was difficult and designed to meet federal requirements for those applying restricted materials. As a result, very few maintenance gardeners engaging in pest control actually obtained a certificate and complied with the law. DPR created a new certificate subcategory that did not carry the authority to apply restricted materials, and to ensure that maintenance gardeners had an understanding of issues involving pesticide use and potential impacts to residents, children, pets, and the environment.
- **Community Guide to Recognizing and Reporting Pesticide Problems:** Published in 2008 (bilingual English/Spanish), this 34-page guide offers plain-language explanations that focus on practical solutions for real-world situations. In addition to earlier distribution, in 2011, both hard copy and a CD was sent to 97 school districts in five counties with high fumigant use and with significant numbers of Latino school children. California Poison Control Centers use it for staff training.
- **Toll-Free Pest Line:** Outreach wallet cards distributed to farm workers with information for contacting the CAC, 1-877-378-5463 (1-87-PestLine and Poison Control, 1-800-222-1222). These toll-free lines are in wide distribution and included on fact sheets, community guides, and DPR's Web site. Between January



2012 and July 2013, approximately 9,000 cards were distributed by staff at outreach events or mailed from headquarters.

- **Worker Health and Safety Outreach:** In 2008, DPR expanded worker outreach by assigning a full-time, bilingual staff member to liaison 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. Each year, DPR staff takes part in community meetings, health conferences, and other events to educate and promote pesticide safety for workers and their families. Staff also promoted pesticide safety in guest appearances on Spanish-language media outlets in the Central Valley, Central Coast, Bay Area, Sacramento Valley, and Imperial Valley. In 2010-2012, staff participated in over *180 outreach events* focused on workers and families.
- **Physician Training:** 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.
- **Poison Control:** DPR provided \$850,000 to Poison Control to develop a Spanish language training program specifically designed for promotoras to educate migrant workers about pesticide hazards and what to do in the event they get exposed. The Web site, training videos, and train-the-trainer information went online in June 2013.
- **The Pesticide Safety and Education Program (PSEP)** develops and delivers train-the-trainer programs throughout the state, in both English and Spanish, for those who instruct field workers and unlicensed pesticide handlers. DPR reviews and approves trainers to provide pesticide safety training, along with the University of California (UC). Lisa Blecker of UC serves as California's designated Pesticide Safety Education Coordinator for the U.S. EPA–USDA pesticide safety program and continues UC IPM's work with DPR in developing study guides and exams to certify pesticide applicators.

### *Integrated Pest Management*

Alliance Grants: DPR has awarded approximately \$1.4 million for nine Alliance Grant projects conducted between 2010-2012. Some of these projects encourage a better knowledge base for good Integrated Pest Management (IPM) decision-making that involves underserved communities and gathering data and conducting research to better serve EJ communities.

- **IPM Training Resources for California Pest Management Professionals Working in Early Care & Education Facilities UC Berkeley, School of Public Health:** This project aims to increase the use of IPM at child day care centers by developing an education course for licensed pest management professionals tailored specifically for these facilities statewide. The project will also educate child day care directors and administrators about state pesticide laws, and the importance of adopting IPM strategies and contracting with pest management professionals who complete the education course. This project runs from 2012-2015.
- **Healthy Homes Alliance:** The goal of this project was to increase access to safe and effective pest management methods and promote IPM practices in primarily low-income housing where poor building maintenance and other long-term conditions promote ongoing pest infestations. Partners included the



Health Home Collaborative, Colby Pest Control, Pestec IPM Pest Control of San Francisco, Green Shield Certified, and Californians for Pesticide Reform, and community groups Esperanza Community Housing Corporation, Coalition for Economic Survival, People's CORE, Los Angeles Community Legal Center, and Inquilinos Unidos. This project concluded in spring of 2012.

- **IPM Continuing Education for Maintenance Gardeners:** The goal of this project was to educate local maintenance gardeners and staff at retail pesticide outlets about IPM practices and to reduce pesticide runoff into San Luis Obispo County's urban creeks. Most maintenance gardeners primarily speak Spanish, do not know they need a maintenance gardener pest control business license to apply pesticides, and have limited knowledge about IPM practices or alternatives to pesticides. A 2007 survey by the CAC's office found that 82 percent of these gardeners were in violation of state pesticide rules. The County and its community partners offer free, seasonal IPM workshops at participating retailers that include training on proper pest identification methods, alternatives to chemical pest controls, and information about less-toxic pesticides. Workshops are presented in English and Spanish. In addition to San Luis Obispo County, partners include University of California Cooperative Extension; the Pesticide Applicators Professional Association; and California Polytechnic State University, San Luis Obispo, Horticulture and Crops Science Department.
- **Evaluation of IPM Intervention in 45 Child Care Centers in Three Counties:** This research contract is an outgrowth of a Pest Management Alliance that produced IPM training materials in Spanish and English for child care workers. The project is evaluating the efficacy training materials through child care center site visits, pre and post interviews and surveys, and training of staff and center managers in using child care health consultants.



### *Compliance and Enforcement*

- **Notification regulations:** In 2009, CCR 6618 and 6619 were added to increase the field notification requirements to neighboring sites and nearby workers. These extensive requirements for notice of applications and notice of completion strengthened field worker protections. The DPR regulations were then also used as a model by U.S. EPA to implement national field fumigation notification requirements.
- **Enforcement Response Regulations:** In 2011, DPR adopted regulations to clarify and strengthen regulations passed in 2006 which were adopted to implement a uniform enforcement response by CACs for violations of the pesticide use laws, including those designed to protect the health of individuals who apply pesticides, or work or live near fields where pesticides are applied. The intent was to ensure that that all workers and the public benefited equally from a strong and uniform enforcement regardless of where they worked or lived. In 2013, DPR reinstated a procedure to review certain human health violation notices of proposed actions, prior to issuance to the respondents. This review is intended to assist the county agricultural commissioners in determining the most appropriate classification and fine levels for pesticide



use violations. The goal is to strengthen enforcement and to ensure equitable and consistent enforcement response statewide.

- **Environmental Reporting Networks:** Fresno Environmental Reporting Network (FERN), Imperial Valley Environmental Reporting Network, and Kern Environmental Enforcement Network (KEEN). These local networks bring together county residents and government agencies to solve local issues that threaten the health of community members. They are used to establish a complaint process to address concerns about illegal dumping, polluting factories, pesticide exposures, flooding, dust, odors, and anything else that affects public health. DPR, with the Department of Toxic Substances Control, continues to support these local networks, and ensures that DPR staff is available for meetings and to answer questions. DPR staff attended the 2012 EJ Bus Tour sponsored by FERN, where EJ communities in the Fresno region were visited. The networks began in Imperial County and were duplicated in Kern and Fresno counties. In 2013 they will be expanding to three new locations.
- **Breaking Barriers:** Since 2009, DPR's Enforcement and Worker Health and Safety branches, in conjunction with U.S. EPA Region 9, have provided one-day "Breaking Barriers" training sessions in various locations throughout California to assist non Spanish-speaking inspectors who interview non English-speaking field workers and applicators. The course is targeted towards CAC inspectors currently conducting field worker safety inspections and agricultural pesticide monitoring inspections (such as pesticide use, field fumigation, and commodity fumigation).
- **Inspections:** DPR's Enforcement Branch is committed to conducting a significant number of focused pesticide producing inspections in the San Joaquin Valley as part of U.S. EPA's Region 9 EJ project. This is a cooperative effort where agencies will work together on inspections of facilities that may generate hazards in underserved areas.



### *Environmental Monitoring*

- **Air Monitoring:** DPR established an air monitoring network in February 2011 in Kern, Monterey, and San Joaquin counties to expand its knowledge of the potential health risks of long-term exposure to pesticides. The network is the first of its kind in the nation. The first monitoring results of 34 pesticides and five pesticide breakdown products released in July 2012 show residues well below established health screening levels.
- **Nonfumigants-Volatile Organic Compounds (VOCs) in the San Joaquin Valley:** Following the earlier adoption of regulations restricting the use of fumigant pesticides, these regulations will restrict the use of certain nonfumigants in the San Joaquin Valley ozone nonattainment area to reduce VOC emissions from pesticides to meet the state's obligation under the state implementation plan to achieve and maintain federal ambient air quality standards for ozone. The San Joaquin Valley has been identified by various reports as an area of environmental justice concern. These are expected to go into effect in November 2013.



- **Kettleman City Project:** In 2010, the California Environmental Protection Agency (Cal/EPA) and Department of Public Health 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, a San Joaquin Valley community. Scientists from each of Cal/EPA's boards, office, 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. 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 the air for 27 pesticides, including four that could cause birth defects. The results showed that it is very unlikely pesticides caused the birth defects. Tests of agricultural soil found no evidence of pesticide levels that pose a health risk concern. Cal/EPA'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.



### *Worker Health and Safety Branch - Farm Worker Safety Activities*

- **Research:** DPR conducts studies measuring exposure of farm workers to pesticides and observes activities of farm workers during harvest and other field activities to improve our understanding of working conditions in the field. For example, this summer DPR scientists have been conducting an observational study of strawberry harvesters. DPR is also funding a research study by the University of California to gather additional information about field worker activities. Numerous studies have shown that residues on plants are the main source of pesticide exposures for field workers doing harvesting and other activities in crops. DPR has an ongoing study measuring residues on plants on the first day following pesticide applications when field workers are allowed to work in the fields. Data from these studies have been used in DPR's risk assessments.
- **Investigations:** DPR investigates illnesses in field workers to determine causes and measures that will prevent future illnesses. In several cases, following field worker illnesses involving specific pesticides, DPR determined that longer intervals are needed before workers are allowed to work in the fields. In response, DPR put longer intervals into regulation for some pesticide-crop combinations. For example, when 70 field workers became ill after entering fields treated with methomyl, restricted-entry intervals were extended to seven days prior to July 1 and to 21 days after July 1.

DPR compels registrants to supply exposure data when issues arise, for example following respiratory illnesses in corn harvesters and citrus harvesters. These data are used in department risk assessments. DPR conducts contracts with County Agricultural Commissioner throughout the state to investigate



cases of suspected pesticide-related illnesses. Data abstracted from these illness investigations have led to several regulatory responses.

DPR conducts contracts with County Agricultural Commissioners throughout the state to investigate cases of suspected pesticide-related illnesses. Data abstracted from these illness investigations have led to several regulatory responses. For example, when orange harvesters developed skin rashes, the investigation determined that the orange grove had been treated with a new formulation of propargite. That formulation was subsequently withdrawn. In a second example, when a total of 76 grape harvesters in three separate illness episodes were found to have cholinesterase values below the normal range after harvesting phosalone-treated grapes, and fourteen of the workers were hospitalized, all hand-harvested crops were subsequently removed from the phosalone label.

**Training and Education:** DPR provides the following training and educational resources on pesticide safety issues for farm workers and their employers:

- **Pesticide Safety Information Series (PSIS) A and N Series Leaflets:** DPR's Worker Health and Safety Branch developed the PSIS leaflets primarily as a training aid for employees. California regulations require these documents to be part of pesticide handler and field worker training. The leaflets are in PDF format in English, Spanish and Punjabi. The "A" series are for use in production agriculture, including fruit, vegetables, grains, nut and grape crops, trees grown for lumber, commercially-grown nursery stock, Christmas trees, and turf grown for sod. This excludes livestock, poultry and fish. There are currently 10 leaflets in the "A" series. The "N" series are for use in poultry and fish production; structural pest control; landscape and maintenance firms; rights-of-way maintenance organizations; or similar businesses. There are currently eight leaflets in the "N" series.
- **Compliance Assistance Booklets for Employers:** The Pesticide Use Compliance Assistance Booklets for Employers were developed collaboratively by DPR's Pesticide Enforcement and Worker Health and Safety Branches to inform pesticide users, growers, pest control businesses and farm labor contractors of their training responsibilities. These booklets provide guidance to employers when developing their pesticide use and field worker safety programs. Currently there are eight Compliance Assistance Booklets for Employers available in print and on DPR's Web site.
- **Community Guide to Recognizing and Reporting Pesticide Problems:** The 'Community Guide' was designed to make it easier for people to get help in a pesticide emergency and resolve pesticide use complaints and concerns. This guide also has easy-to-understand information about how DPR and the County Agricultural Commissioners oversee the safe use of pesticides in California. Additionally, the guide provides information on how to find information on pesticide use in areas where farm workers live and work. The section on 'Pesticide Drift' was the catalyst behind the development of a pocket guide designed in the same format as the Compliance Assistance Booklets for Employers mentioned above. The Pesticide Drift booklet is also available in print and on DPR's Web site.



- **Emergency cards for field workers:** This is the information found on wallet-sized cards developed for agricultural field workers with information on who to contact if they become ill or injured from exposure to pesticides. These cards were developed to coincide with the guidance given in the ‘Community Guide to Recognizing and Reporting Pesticide Problems’ mentioned above. They are available in both Spanish and English and are made readily available at DPR farm worker outreach events, to County Agricultural Commissioner offices, and to anyone who requests them from DPR.
- **Bilingual Outreach:** Bilingual staff from DPR’s Worker Health and Safety Branch participates in several outreach events each year that reach out to farm worker communities across the state. This also includes educational outreach and training to Promotores de Salud (Promoters of Health) and Community Health Care Workers who are typically members of the same communities where farm workers live and work. DPR outreach staff partners with local County Agricultural Commissioner staff, federal Environmental Protection Agency Region 9 staff, other DPR Branch (e.g., Enforcement and Pest Management and Licensing) staff, and with staff from the California Poison Control System at many of these events. Here are a few examples of these types of outreach and educational events:
  - Pesticide Safety Training for Community Health Workers/Promotores (CHW/P) in partnership with California Poison Control System (CPCS).
  - Soil Fumigant Training and Flyer for Promotores in partnership with United States Environmental Protection Agency (U.S. EPA) Region 9.
  - Dia del Trabajador Agrícola (Day of the Agricultural Field Worker) Celebration and Community Resource Fair in Monterey County.
  - Farm worker community forum organized by Lideres Campesinas, “Farm Worker Women,” in Ventura County.
  - 10th Annual Farm Worker Appreciation Day and Resource Fair in Fresno County.
- **Public Service Announcements:** DPR develops Spanish Language Public Service Announcements to create awareness about common pesticide safety issues that may affect farm worker communities and families. DPR public outreach staff has participated in Spanish radio and television interviews that focused on pesticide safety issues in the field and the home and how to contact the proper authorities in case of pesticide exposure or misuse. In July and August 2013, DPR sent 30 and 60 second PSAs to Spanish language radio stations that broadcast in the five counties of highest methyl bromide use. The PSAs advertise the Toll-Free Pest Line, for contacting the CACs, 1-877-378-5463, and Poison Control, 1-800-222-1222, for reporting pesticide illnesses.
- **Public Meetings:** DPR conducts public meetings to garner input on proposed mitigation measures for certain pesticides (e.g., soil applied fumigants) from communities near agricultural fields where pesticides can be used. These meetings provide an opportunity for farm workers to attend and contribute grass roots feedback about how the issues being presented affect them and their families.





Most of these public meetings provide Spanish interpretation service to Spanish speaking attendees and participants.

- **Reinforcing Worker Training:** Many outreach and education efforts made by DPR can be indirectly associated with the pesticide safety training that field workers (and handlers) are required to receive from their employers. DPR scientists give presentations and provide training on a variety of subjects that are intended to support the safe use of pesticides in agricultural (e.g., farms, dairies, and forests) and non-agricultural (e.g., commercial and residential landscape maintenance) settings. Training and presentation topics include: Pesticide Labels and Safety Data Sheets; Personal Protective Equipment (PPE); Administrative and Engineering Controls for Pesticides; DPR's Respiratory Protection Regulation Title 3 CCR Section 6739 Industry Training (e.g., Pesticide Applicators Professional Association (PAPA) seminars); Soil Fumigants: Phase 2 Label Changes (at 2013 PAPA and California Association of Pest Control Advisors (CAPCA) seminars); Soil Fumigant Mitigation Management Requirements in California (at 2011-12 PAPA and CAPCA seminars).
- ***Outreach Events 2013 (partial list):*** DPR provided outreach materials at the following events in **2013**. **JANUARY:** Family Resource Fair Huron (Fresno); 10th Annual Farm Worker Appreciation Day & Resource Fair, Mendota (Fresno); Monthly Promotora Meeting, Visalia (Tulare). **FEBRUARY:** Promotora Training, Santa Paula; World Agricultural Expo, Tulare; Promotora Training Huron (Fresno), Madera, Salinas (Monterey), Santa Paula, and Calexico (Imperial). **MARCH:** 33rd Annual State Migrant Parent Conference, Los Angeles; Inter-Agency Meeting, Dixon (Solano); Presentation on WHS Outreach Program, San Diego; Cesar Chavez Celebration, Visalia (Tulare). **APRIL:** Field Worker Training, Escondido (San Diego); Children's Fair, El Centro; Resource Fair Lodi (San Joaquin); Health & Safety Fair, Walnut Grove; Earth Day/Day of the Child, Watsonville (Santa Cruz); Health Fair, Lindsay (Tulare); Resource Fair, Fresno; Health Fair, Three Rocks (Fresno). **MAY:** Free Health Care, Davis (Yolo); 5th Annual Head Start Connecting Families with its Community, Lodi; National Farm Worker Health Conference, San Diego; Univision Interview, Santa Rosa; Free Health Care, Dixon (Solano); Health Fair, Porterville (Tulare); Free Health Care, Madison (Yolo); Dia del Trabajador Migrante, Mecca (Riverside). **AUGUST:** Spanish Days Fiesta, Santa Barbara; Dia del Campesino, Lodi; Dia del Trabajador Agrícola, Greenfield.