

## DEPARTMENT OF PESTICIDE REGULATION

### I. EXECUTIVE SUMMARY

The California Department of Pesticide Regulation's (DPR) mission is to protect human health and the environment by regulating pesticide sales and use and by fostering reduced-risk pest management.

Since its creation in 1991, DPR has made significant strides to:

- Enhance worker and environmental protection.
- Strengthen uniformity of enforcement in the field while maintaining local discretion and flexibility.
- Strengthen licensing exam and certification processes for commercial pesticide applicators.

DPR's regulatory control begins with product evaluation and registration and continues through statewide licensing of pesticide professionals; evaluation of health effects of pesticides through risk assessment and illness surveillance; environmental monitoring of air, water and soil; residue testing of fresh produce; and local enforcement by 55 County Agricultural Commissioners (CACs) representing 58 counties. DPR also supports the development and adoption of least-toxic pest management practices through incentives and grants.

DPR's annual budget is nearly \$81 million of which over \$22 million funds local pesticide enforcement activities in the counties. Approximately, 384 DPR employees, including scientists and toxicologists carry out California's pesticide regulatory program with over 61 DPR staff dedicated to Enforcement Program activities. In addition, approximately 280 full-time CAC inspectors are dedicated to pesticide use enforcement at the local level.

**Note:** Current-year statistics in this report are preliminary in nature due to lag times in reporting and compiling data. Prior-year statistics have been updated and therefore may not match the statistics as reported in previous editions of this report.

### Program Structure and Performance Measures

DPR uses a "function-based" approach to manage the performance and costs of its programs. Enforcement of statutory and regulatory requirements within this framework allows DPR to determine compliance with these requirements and to assess their effectiveness relative to costs, workload outputs and impacts on human health and the environment. Elements of DPR's planning and management system include:

- Cal/EPA's Strategic Vision that sets forth the Agency's vision and mission, core values and goals and objectives.
- DPR's Strategic Plan that provides department-specific strategies, goals and objectives.
- DPR's Operational Plan that defines goals and activities it plans to carry out during the fiscal year.
- Performance measures that include DPR's outputs and environmental indicators. They are used to assess the effectiveness of DPR's program.
- Function-based accounting that summarizes spending by function category.

Key DPR workload outputs are compiled annually by fiscal year to track the number of products and services. The number of licenses issued or groundwater samples collected are examples. These outputs

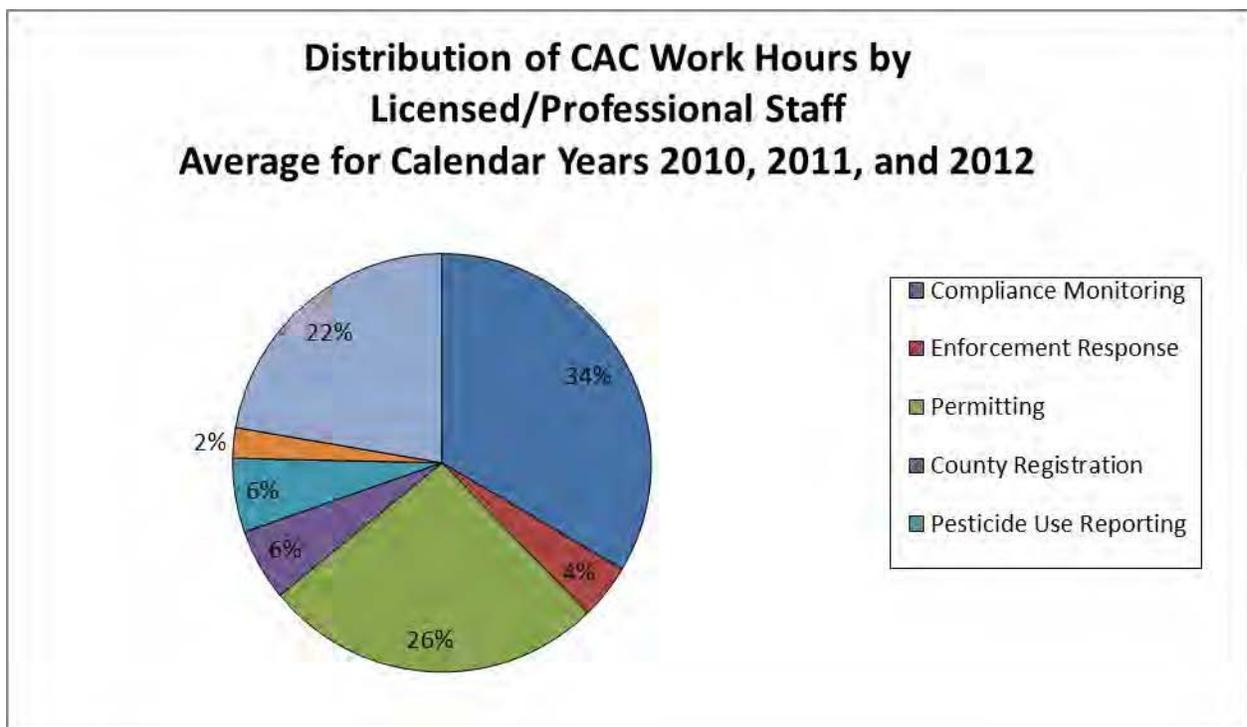
are categorized by DPR's program functions. Please visit DPR's planning and performance website [www.cdpr.ca.gov/docs/dept/planning/performance/index.htm](http://www.cdpr.ca.gov/docs/dept/planning/performance/index.htm) for more detailed information.

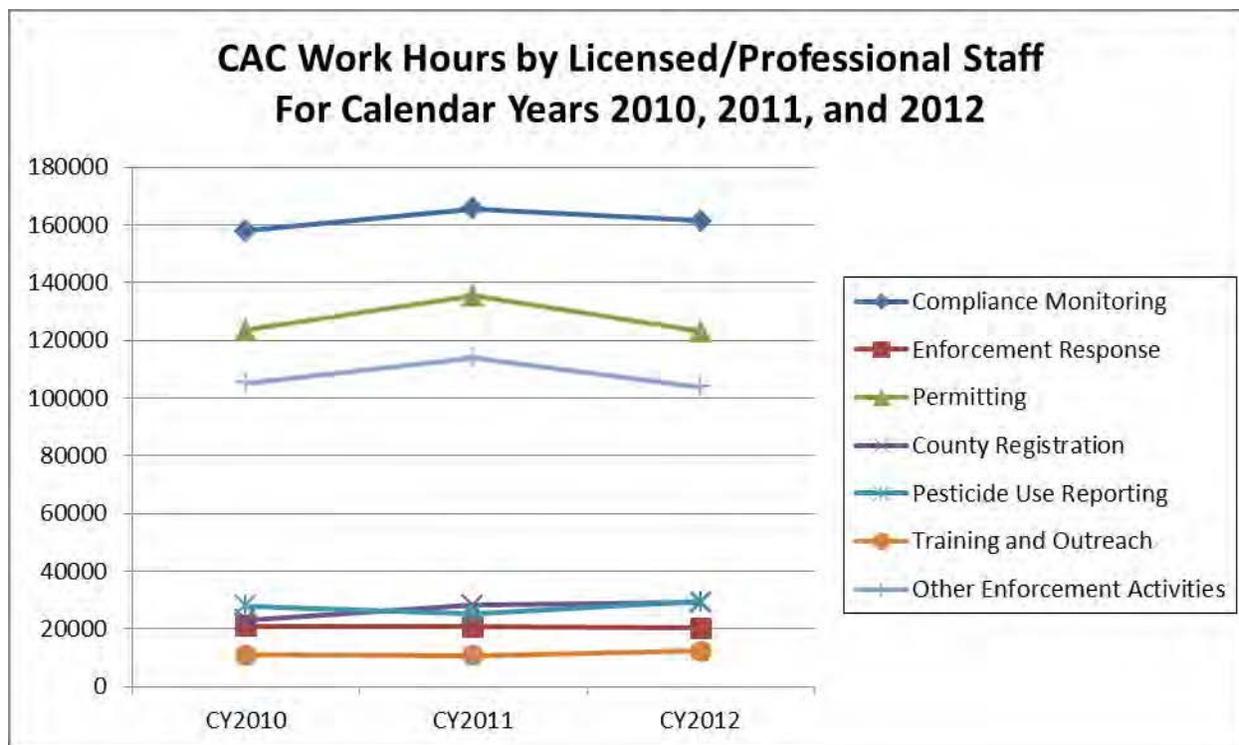
The DPR and CACs spend considerable time evaluating their programs and identifying areas for improvement. DPR developed a program guidance document identifying three core program priorities to better assist CACs with county enforcement efforts:

- Restricted Materials Permitting: An important action in achieving California Environmental Quality Act (CEQA) equivalency. CEQA requires state and local agencies to identify the significant environmental effects of their actions and to avoid or mitigate those effects, if feasible.
- Compliance monitoring through inspections and investigations.
- Enforcement response to violations.

In addition to the core program areas in 2012, DPR recommended that CACs consider other statewide priorities when developing their work plans. CAC work plans identify state, regional and local compliance problems, emerging issues and measurable solutions based on available resources. The work plans have clearly stated goals and performance measures, balancing DPR's statewide enforcement priorities with local conditions unique to each county. DPR uses performance standards to evaluate the effectiveness of the county's enforcement program. DPR conducts performance evaluations of CAC pesticide regulatory programs as part of an organization-wide effort to incorporate continuous quality improvement. County Agricultural Commissioner work plans, by county, can be downloaded at: [www.cdpr.ca.gov/docs/county/enf\\_stat\\_profile.htm](http://www.cdpr.ca.gov/docs/county/enf_stat_profile.htm).

The following two charts summarize distribution of CAC work hours by licensed/professional staff for 2010, 2011 and 2012. "Other enforcement activities" includes general management and supervisory time across the workload categories. Conservatively, inclusive of management and supervision, the CACs consistently expend 75 percent of their work hours in the three core enforcement program areas.





Source: Pesticide Regulatory Activities Monthly Report Database (7/2013)

The organization of DPR's six branch program activities allow each branch to fulfill their responsibilities and serve to complement the others by sharing their resources for scientific expertise, information and data. One of DPR's performance goals is to assess fully the impacts of the programs to protect human health and the environment by integrating and analyzing both scientific and compliance data. This is work continually in progress.

### Pesticide Programs Division Organization and Activities

DPR's comprehensive system to track pesticide use has been at the forefront both nationally and internationally. Since 1990, growers and pesticide applicators must report all agricultural, structural, landscape maintenance and other nonagricultural pest control applications to the CACs. DPR compiles and makes available statewide pesticide use data on an annual basis. More information about this unique program is available on DPR's website at <http://www.cdpr.ca.gov/docs/pur/purmain.htm>.

#### Enforcement Branch

DPR's Enforcement Branch Headquarters' staff develop standards and procedures; direct and manage the department's food safety program; reviews, evaluate and make recommendations on products during the registration process including proposing alternatives and mitigation measures; and interpret pesticide labels for compliance with state and federal statutes. The staff review, propose and/or develop legislation and regulations; compile and analyze statewide data for use in developing and modifying existing pesticide environmental regulations (air, ground water and endangered species). In addition, they oversee enforcement carried out at the local level including protection of workers and food safety

programs; plan and conduct training; and coordinate the structural pest control use enforcement program with the CACs and Structural Pest Control Board.

The Enforcement Branch's regional offices located in West Sacramento, Fresno and Anaheim work closely with CAC staff to plan and prioritize compliance and pesticide use enforcement activities. CACs enforce federal and state pesticide laws and regulations at the local level with DPR oversight. CACs issue site-specific local permits for the use of restricted materials, conduct on-site application inspections, conduct worker safety inspections, investigate pesticide illnesses and other complaints and administer full pesticide use reporting.

DPR assigns a staff member from the regional office, known as an Enforcement Branch Liaison to work with each CAC office to serve as the primary contact point between CACs and the DPR. Each liaison is assigned to specific counties and works with CACs and staff to develop and revise annual county work plans, provide direction and/or assist in county investigations, consult on appropriateness of proposed enforcement actions (strength of evidence, proper classification of the violation and fines), provide training and outreach as well as interpret label and regulatory requirements. Liaisons assess the effectiveness of each CAC's overall pesticide enforcement program in part by conducting side-by-side inspections with county staff; reviewing restricted materials permits and notices of intent; reviewing CAC inspections and investigative reports and making recommendations for additional investigation; and reviewing compliance and enforcement actions. Liaisons track incident investigations and complaints, and assist in the development of enforcement cases involving licensees, which may lead to a possible license suspension or revocation by the state.

**Organization**

The Enforcement Branch is comprised of headquarters in Sacramento and three regional offices located in Anaheim, Fresno and West Sacramento.

<b>2012 Enforcement Branch by Location – Staff Resources</b>	
<b>Headquarters</b>	
Branch Chief	1
Supervisors / Program Managers/Staff	2 Managers, 2 Supervisors, 21 Staff
<b>Regional Offices</b>	
Northern Regional Office (West Sacramento)	1 Manager, 10 Staff
Central Regional Office (Fresno)	1 Manager, 1 Supervisor, 12 Staff
Southern Regional Office (Anaheim)	1 Manager, 9 Staff

**State of California**  
**Department of Pesticide Regulation**  
**Enforcement Branch**  
**Headquarters and Regional Offices**

**Sacramento Headquarters (HQ)**

1001 I Street, P.O. Box 4015  
Sacramento, CA 95812-4015  
Tel.: (916) 324-4100; FAX: (916) 445-3907  
George Farnsworth, Enforcement Branch Chief

**Northern Regional Office (NRO)**

3210 Beacon Boulevard  
West Sacramento, CA 95691-3444  
Tel.: (916) 376-8960; FAX: (916) 376-8973  
Manager: Cliff Smith  
E-mail: Clifford.Smith@cdpr.ca.gov

**Central Regional Office (CRO)**

1130 E. Shaw Avenue, Suite 100  
Fresno, CA 93710-7838  
Tel.: (559) 243-8111; FAX: (559) 243-8115  
Manager: Karen Francone  
E-mail: Karen.Francone@cdpr.ca.gov  
Supervisor: Louie Guerra  
E-mail: Louie.Guerra@cdpr.ca.gov

**Southern Regional Office (SRO)**

130 S. Chaparral Court, Suite 130  
Anaheim, CA 92808-2238  
Tel.: (714) 279-7690; FAX: (714) 279-7692  
Manager: Jahan Motakef  
E-mail: Jahan.Motakef@cdpr.ca.gov



**HQ Managers**

Regina Sarracino, Tel.: (916) 445-3860  
E-mail: Regina.Sarracino@cdpr.ca.gov  
Jim Shattuck, Tel.: (916) 445-4279  
E-mail: Jim.Shattuck@cdpr.ca.gov

**HQ Supervisors**

Ken Everett, Tel.: (916) 324-3897  
E-mail: Ken.Everett@cdpr.ca.gov  
Michael Zeiss, Tel.: (916) 324-6680  
E-mail: Michael.Zeiss@cdpr.ca.gov



- Headquarters Location
- Regional Office Location

www.cdpr.ca.gov  
(Rev. 7/2013)

### Product Compliance Branch

DPR's Product Compliance Branch (PCB) is responsible for promoting compliance with California and federal laws and regulations related to labeling compliance, sale and distribution of pesticide products. The PCB staff conducts product compliance inspections at pesticide manufacturing facilities and businesses throughout the state to ensure that products manufactured, sold and used in California are registered and approved by U.S. Environmental Protection Agency (U.S. EPA) and DPR. These include Marketplace Surveillance Inspections where pesticides are sold and distributed and Producing Establishment Inspections where pesticides are manufactured, processed and packaged or re-packaged. When staff uncovers sales of unregistered pesticide products, the PCB initiates investigations and forwards those cases to the DPR Office of Legal Affairs to assess administrative civil penalties through settlements or enforcement actions.

In addition, the Product Compliance Branch ensures that all pesticide sellers pay their fair share of applicable registration and "mill assessment" fees that help support DPR's regulatory programs at both the state and county level. PCB auditors travel throughout the United States to review the records of pesticide sales made into California to ensure compliance with mill assessment payments. The PCB also oversees disbursement of a portion of mill assessment to the CACs for local pesticide enforcement.

### Worker Health and Safety Branch

DPR's Worker Health and Safety Branch (WHS) is responsible for public and worker safety in all areas where pesticides are used. WHS scientists design and conduct studies to characterize human exposure to pesticides and pesticide residue and conduct human exposure assessments for use in DPR's risk characterization documents. The Branch develops measures to reduce risks for persons applying pesticides and working in fields where pesticides have been applied, as well as developing measures to protect the public from offsite movement of pesticides. Additionally, WHS oversees the department's Worker Protection Program by continuously evaluating the implementation of the state worker safety regulations which includes developing outreach materials such as the Pesticide Safety Information Series Leaflets. WHS scientists maintain a detailed and comprehensive illness database that contains information from physician's reports and on-site CAC field investigations of each incident, providing valuable information on the circumstances of exposure. WHS provides training to CAC staff, persons applying pesticides, persons working in pesticide-treated fields and residing near treated fields. WHS is available to assist Enforcement Branch and CAC staff in providing consultation for fumigation facility operation procedures or with pesticide illness investigations.

### Environmental Monitoring Branch

The Environmental Monitoring Branch has the lead role in carrying out DPR's environmental protection programs. Environmental data collected by DPR are critical to the department's continuing evaluation of pesticide use assists in carrying out programs to prevent pesticide contamination. Scientists design and conduct studies to provide data that help assess human exposures and ecological effects of pesticide residues in the environment. Examples include:

- Evaluating the effect of application methods and management practices on the movement of pesticides.
- Monitoring the off-site movement of pesticides after application to evaluate the potential for contamination of air, surface or ground water, or crops.

- Conducting studies to develop and evaluate measures designed to mitigate the adverse effects of pesticides.

### Registration Branch

DPR's Registration Branch (RB) prepares public notices and corresponds with registrants regarding data requirements, determinations of health effects of pesticides and final actions on registrations. In addition to its responsibilities for a pesticide product's registration in California, the RB coordinates the required pesticide evaluation process among DPR branches and other state agencies. Branch scientists share data review responsibilities with staff scientists in other branches. The Branch also manages all data received, oversees call-ins of data on environmental fate and acute and chronic toxicology, maintains pesticide label files and the pesticide data library. They also provide information on registered pesticides and label instructions to pesticide enforcement agencies and the public.

Human health and environmental data from DPR's other branches feeds into the Registration Branch. The law requires DPR to continuously evaluate pesticides after they are in use. DPR does this through its Pesticide Reevaluation Program. Upon receipt of information indicating that use of a pesticide may have caused or is likely to cause an adverse effect to people or the environment, DPR is required to investigate. If based on that investigation, DPR finds that the pesticide has caused or may have caused a significant adverse effect, reevaluation is triggered. When a pesticide enters reevaluation, DPR reviews existing data and may require registrants to provide additional data. The goal of reevaluation is to determine the extent of the adverse effect and to identify ways to mitigate or eliminate the concern.

DPR compiles and analyzes data from these various sources to assess the impacts of its programs to improve human health and the environment. DPR continues to identify methods and data requirements to better analyze program outputs and outcomes.

### Pest Management and Licensing Branch

DPR's Pest Management and Licensing (PML) Branch examines and licenses those who sell, apply commercially or consult on the use of pesticides, accredits continuing education courses, and collaborates with the University of California for the development of license exam study guides and exam questions.

### **2012 Major Program Highlights**

In addition to pesticide use and licensing violations, DPR has the authority to take enforcement actions and levy fines for selling unregistered or misbranded pesticides, and packing, shipping or selling produce containing illegal pesticide residues.

DPR makes every effort to provide training and education to help the regulated industry comply with laws and regulations governing food-safety, pesticide use and sales. For recurring or egregious violations, DPR will continue to take enforcement actions when appropriate.

### Product Compliance Branch Highlights

In 2012, the Product Compliance Branch (PCB) referred several cases for enforcement action. In one case, an inspection of a pool and spa business and a follow-up inspection at a distributor, staff found misbranded pesticide products. The pesticide product labels were found attached to raw material bags of

products from another manufacturer. In addition, the attached pesticide labels did not match the ones currently approved by DPR for sale in California. Furthermore, the product was being sold in 50lb. bags, not in the plastic containers that were approved for sale. The business (HASA, Inc.) was charged with sale of the three misbranded products and paid DPR a civil penalty of \$90,000.

In a complaint referral brought to the attention of PCB, Quality Park Products was found to be selling a variety of envelopes with claims to provide antimicrobial protection and to guard against growth of bacteria, mold, mildew, fungus and odors. These claims exceeded what is allowed by U.S. EPA's Treated Article Exemption PR Notice 2000-1. In addition, further investigation revealed that the U.S. EPA registered antimicrobial pesticide product used to treat the envelopes was not labeled for use on paper products. Quality Park Products was charged with selling unregistered pesticide and paid DPR a civil penalty of \$120,000.

During routine inspections of businesses that sell pesticide products, it was discovered that KIK Pool Additives, Inc., AKA Chem Lab Products, Inc., sold several products that either displayed pesticide labeling that did not match the approved labeling on file with DPR, or had claims that made the products subject to registration in California as spray adjuvants. The investigation was forwarded to DPR's Office of Legal Affairs (OLA) for settlement. KIK Pool Additives, Inc. was charged with sale of two unregistered and four misbranded pesticide products in California, and paid DPR a civil penalty of \$310,348.

### Enforcement Branch Program Highlights

#### **DPR's Surface Water Pesticide Contamination Prevention Regulations**

DPR adopted regulations to reduce potential runoff and surface water contamination from nonagricultural applications of specified pyrethroid pesticide products, effective July 19, 2012. Title 3, California Code of Regulations (3CCR) was amended to add five new definitions to section 6000 and to add sections 6970 and 6972. The regulations affected the used of 17 pyrethroid insecticides when applied in outdoor nonagricultural settings including structural, residential, industrial, and institutional sites by persons performing pest control for hire.

#### **Food Safety Program**

DPR conducts the nation's most extensive state program for monitoring pesticide residues in fresh produce. The goal is to assure that no domestic or foreign produce contain illegal pesticide residues. All samples are analyzed in California Department of Food and Agriculture (CDFA) analytical laboratories located in Sacramento and Anaheim using multi-residue screens that can detect more than 200 pesticides and pesticide breakdown products. The monitoring results continue to indicate that the vast majority of California-grown produce is either free of detectable pesticide residues, or has low residues that are within the legal tolerances established by U.S. EPA.

DPR's residue monitoring results also show that, as in recent years, fruits and vegetables imported from Mexico have a relatively high rate of illegal pesticide residues. In 2012, 8.9 percent of the fruits and vegetables collected of Mexican origin contained illegal residues.

In 2012, DPR improved its capacity to detect pesticide residues. The California Department of Food and Agriculture (CDFA) analytical laboratories replaced the "old" Organophosphate (OP), Organochlorine (OC) and N-methyl carbamate screens with two new analytical techniques, LC/MS

(liquid chromatography / mass spectrometry) and GC/MS (gas chromatography / mass spectrometry). With LC/MS and GC/MS, the Sacramento laboratory can detect residues of pesticides recently registered by U.S. EPA and California. These “newer” pesticides have chemistries difficult to detect with the “old” multi-residue screens. In addition, the Sacramento laboratory can now detect lower residue concentrations of older pesticides than previously using the “old” screens. With LC/MS and GC/MS, the Sacramento laboratory in 2012 was able to detect more than 270 different pesticide residues, including pesticide breakdown products.

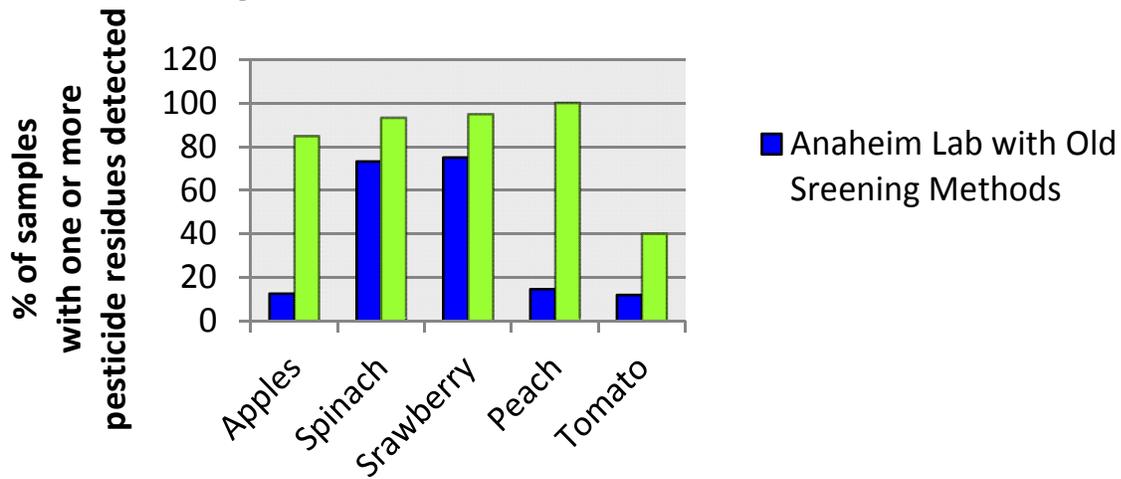
The CDFAs analytical laboratory in Anaheim, which analyzed the other 52.9 percent of the 2012 DPR samples (1850 of 3501 samples), used the “old” OP, OC and N-methyl carbamate multi-residue screens for the analysis of all their 2012 DPR samples.

As expected, the addition of LC/MS and GC/MS increased the overall proportion of DPR samples on which pesticide residues were detected. In the Sacramento CDFAs laboratory, which used the “new” LC/MS and GC/MS screens in 2012, at least one pesticide was detected in 64.3 percent of the 2012 DPR samples they analyzed (1061 of 1651 samples). In comparison, the Anaheim CDFAs laboratory, which analyzed all samples with the “old” multi-residue screens, detected at least one pesticide residue in only 23.1 percent of the 2012 DPR samples they analyzed (428 of 1850 samples). The graph below compares the 2012 Sacramento laboratory results for apple, spinach, strawberry, peach and tomato samples with the Anaheim laboratory results for samples of the same five commodities. The graph shows that the Sacramento laboratory with the LC/MS and GC/MS screens detected pesticides in a higher percentage of all five commodities than the Anaheim laboratory with the “old” screens.

The “new” LC/MS and GC/MS screens also increased the proportion of DPR samples on which illegal pesticide residues were detected. The Sacramento CDFAs laboratory detected at least one illegal pesticide residue in 5.27 percent of the DPR samples they analyzed (87 of 1651 samples). In 43 of those, all illegal residues were detected using LCMS and would not have been detected in the Anaheim laboratory. Conversely, the Anaheim CDFAs laboratory detected at least one illegal pesticide residue in only 2.2 percent of the DPR samples they analyzed (41 of 1850 samples).

In 2013, the Anaheim CDFAs laboratory will begin analyzing all fruit and vegetable samples with LC/MS and the OP and OC multi-residue screens. In 2014, the lab is scheduled to replace the OP and OC screens with GC/MS. DPR looks forward to fully implementing the new technology to further strengthen its ability to detect the widest possible range of pesticides at consistently low levels.

## LCMS and GCMS strengthen detection of pesticide residues in 2012



Source of Data: DPR. This graph indicates that the use of LCMS and GCMS improves the ability of the CDFA labs to detect pesticide residues.

## Worker Health and Safety Branch Highlights

DPR's Pesticide Illness Surveillance Program (PISP) maintains a database of pesticide-related illnesses and injuries. Important sources of case identification include workers' compensation documents, the California Poison Control System and physician reports to local health officers. The local CAC investigates incidents and complaints of possible pesticide exposure, and patient medical records. The investigative findings are then evaluated by DPR research scientists and entered into a relational database. The information collected helps validate the effectiveness of exposure control measures and identify areas where improvements are needed. Analyses of trends in illness and injury produced by a particular pesticide or activity also provide direction for the Exposure Monitoring and Industrial Hygiene Program, and the Human Health Mitigation Program.

The following is a summary of pesticide illness case reports received by DPR's Pesticide Illness Surveillance Program, for 2008-2012 in which human health effects were evaluated after investigation, as "definitely, probably, or possibly related"<sup>a</sup> to pesticide exposure. The data are reported by exposure circumstances (agricultural pesticide use vs. any other exposure situation) and by type of pesticide (antimicrobials and all other pesticides).

Year	Agricultural Pesticide Use Exposure <sup>b</sup>		Non-Agricultural Pesticide Use Exposure		Total Incidents <sup>d</sup>
	Pesticides Other Than Antimicrobials	Antimicrobial Pesticides	Pesticides Other Than Antimicrobials	Antimicrobial Pesticides	
2012 <sup>c</sup>	39	0	98	90	228
2011 <sup>c</sup>	130	10	254	295	707
2010	223	8	286	286	811
2009	231	21	279	375	918
2008	275	36	298	284	894

<sup>a</sup> Definite relationship indicates that both physical and medical evidence document exposure and consequent health effects.

Probable relationship indicates that limited or circumstantial evidence supports a relationship to pesticide exposure.

Possible relationship indicates that health effects correspond generally to the reported exposure, but evidence is not available to support a relationship.

<sup>b</sup> Designation as "Agricultural" indicates exposure to a pesticide intended to contribute to production of an agricultural commodity.

<sup>c</sup> Because of delays in case processing, figures for 2011 and 2012 are not yet final and can be expected to increase by several hundreds.

<sup>d</sup> Total incidents include 40 cases over the 5 years in which agricultural circumstances remained unknown.

Pesticide Illness Surveillance Program Annual reports through calendar year 2010 providing detailed information can be obtained from DPR's website at [www.cdpr.ca.gov/docs/whs/pisp.htm](http://www.cdpr.ca.gov/docs/whs/pisp.htm).

## Environmental Monitoring Branch Highlights

### **Air Program**

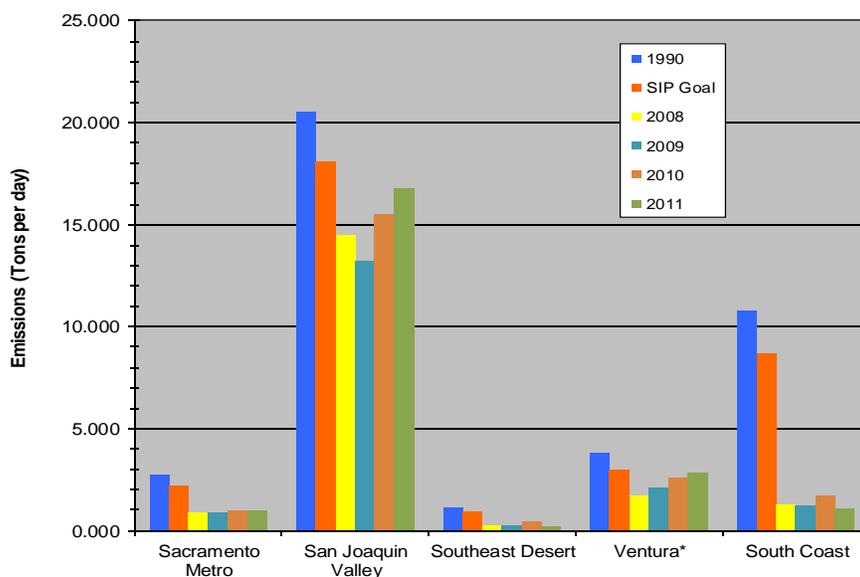
Under the federal Clean Air Act, California must meet national standards for airborne pollutants and specify how it will achieve these goals in a federally approved State Implementation Plan (SIP). Under the U.S.EPA approved SIP, California is required to reduce pesticide VOCs by 12 percent in the San Joaquin Valley Non-Attainment Area (NAA) and 20 percent in the other four NAAs (Sacramento Metro, South Coast, Southeast Desert and Ventura) compared to 1990 levels.

Due to regulatory actions addressing other issues, the Sacramento Metro and South Coast NAAs have achieved their SIP goals for many years. For the Southeast Desert and Ventura NAAs, DPR adopted regulations in 2008 limiting VOC emissions from fumigants. The regulations reduce VOC emissions by requiring “low-emission” fumigation methods. The regulations also set up a fumigation emission limit that would be triggered if low-emission fumigation methods do not result in targeted reductions. The fumigant emission limit is currently in effect for the Ventura NAA.

The low-emission fumigation method requirements in the 2008 regulations also apply to the San Joaquin Valley. However, non-fumigant pesticide products contribute more VOC emissions than fumigants for this NAA. The fumigant requirements will achieve the needed VOC reductions in most, but likely not all years. Therefore, DPR will be adopting regulations to reduce VOC emissions from non-fumigant products in 2013. These regulations prohibit use of “high-VOC” non-fumigant products on certain crops in the San Joaquin Valley during May 1 through October 31 if a VOC trigger level is exceeded. These regulations would apply to high-VOC products containing abamectin, chlorpyrifos, gibberellins, or oxyfluorfen. Also, when purchasing or using high-VOC products containing these four active ingredients, the regulations require a written recommendation from a licensed pest control adviser and require pest control dealers to provide VOC information to the purchaser.

In 2012, DPR analyzed 2011 pesticide use report data to evaluate compliance with the VOC limits and requirements to use low emission methods. DPR released the results in its Annual Report on Volatile Organic Compound Emissions from Pesticides. This comprehensive report is available on DPR’s website at [http://www.cdpr.ca.gov/docs/emon/vocs/vocproj/voc\\_data\\_analysis.htm](http://www.cdpr.ca.gov/docs/emon/vocs/vocproj/voc_data_analysis.htm). The 2011 pesticide VOC emissions for all five NAAs complied with the SIP goals and VOC regulation benchmarks, ranging from 18 to 90 percent less than emissions in the 1990 base year. Relative to 2010, pesticide VOC emissions in 2011 ranged from a decrease of 54 percent to an increase of 11 percent, depending on the NAA.

May - October (Ozone season) adjusted pesticide VOC emissions and goals



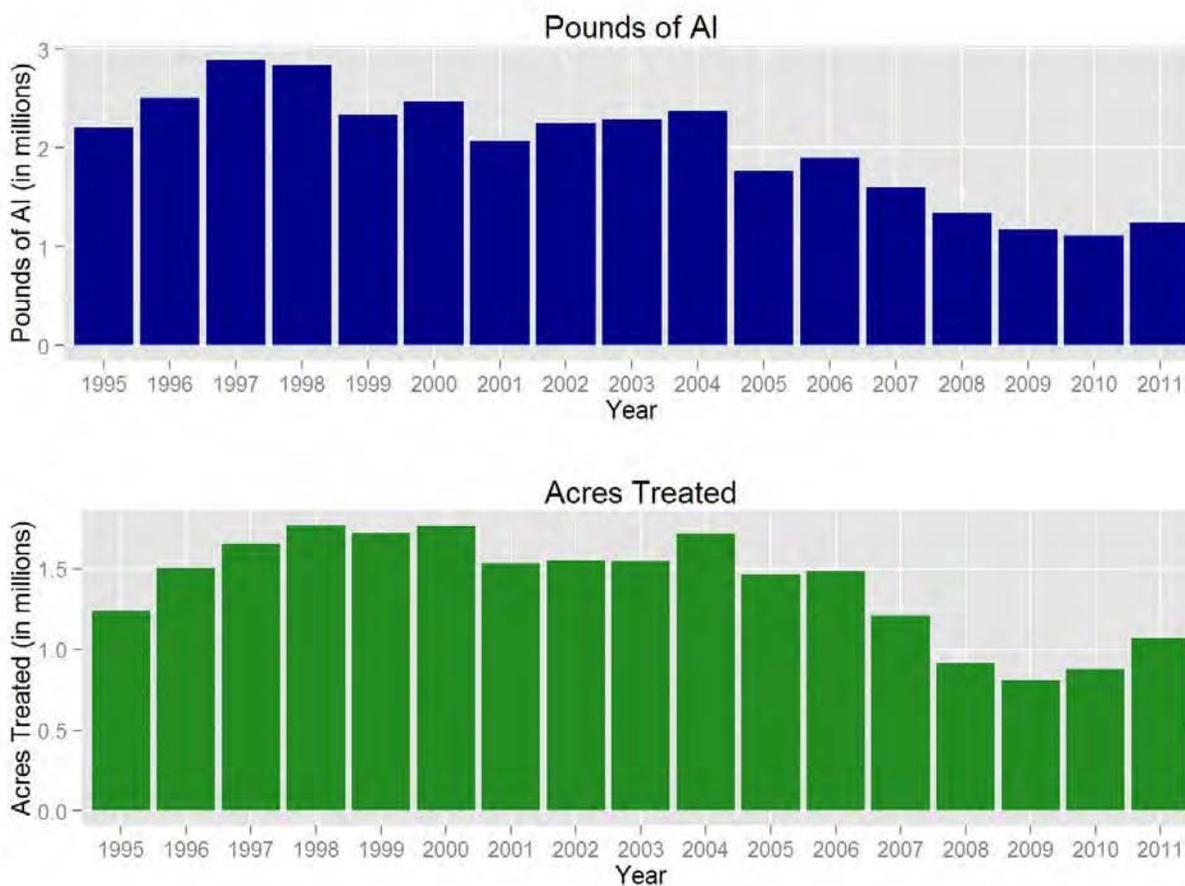
More detailed information about DPR’s Air Monitoring program and ongoing efforts to improve air quality in the state by controlling the use of smog-producing pesticides is available on the DPR website at <http://www.cdpr.ca.gov/docs/emon/airinit/airmenu.htm>.

## Groundwater Protection Program

DPR’s system to collect and track pesticide use is recognized as the most comprehensive in the world. Since 1990, all commercial pesticide applications are reported to DPR, with the exception of home and most industrial and institutional uses. The pesticide use reports are used to track trends for use pertaining to the groundwater protection list, as well as other categories of pesticides.

In 2004, DPR implemented ground water protection areas (GWPA) and went from approximately 300,000 acres under regulation to approximately 2.5 million acres. As can be seen in the charts below, use of regulated GWPA pesticides has decreased since the program was adopted in 2004.

*Use Trends of Pesticides on DPR’s Groundwater Protection List*



Source of Data: DPR’s Summary of Pesticide Use Data – 2011.

*These pesticides are the active ingredients listed in the California Code of Regulations, Title 3, Division 6, Chapter 4, Subchapter 1, Article 1, Section 6800(a). Reported pounds of active ingredient (AI) applied include both agricultural and reportable non-agricultural applications. The reported cumulative acres treated include primarily agricultural applications.*

On an annual basis, DPR has performs an analysis of the statewide pesticide use data to determine what effects the regulatory measures have on the use of these ground water protection list chemicals and if the use of other less-toxic chemicals has changed during that time period. DPR posts the results of this

trend analysis annually on its website and the latest results observed during 2011 are noted at <http://www.cdpr.ca.gov/docs/pur/pur11rep/comrpt11.pdf>.

More detailed information about DPR's groundwater program is available on the DPR website at <http://www.cdpr.ca.gov/docs/emon/grndwtr/index.htm>.

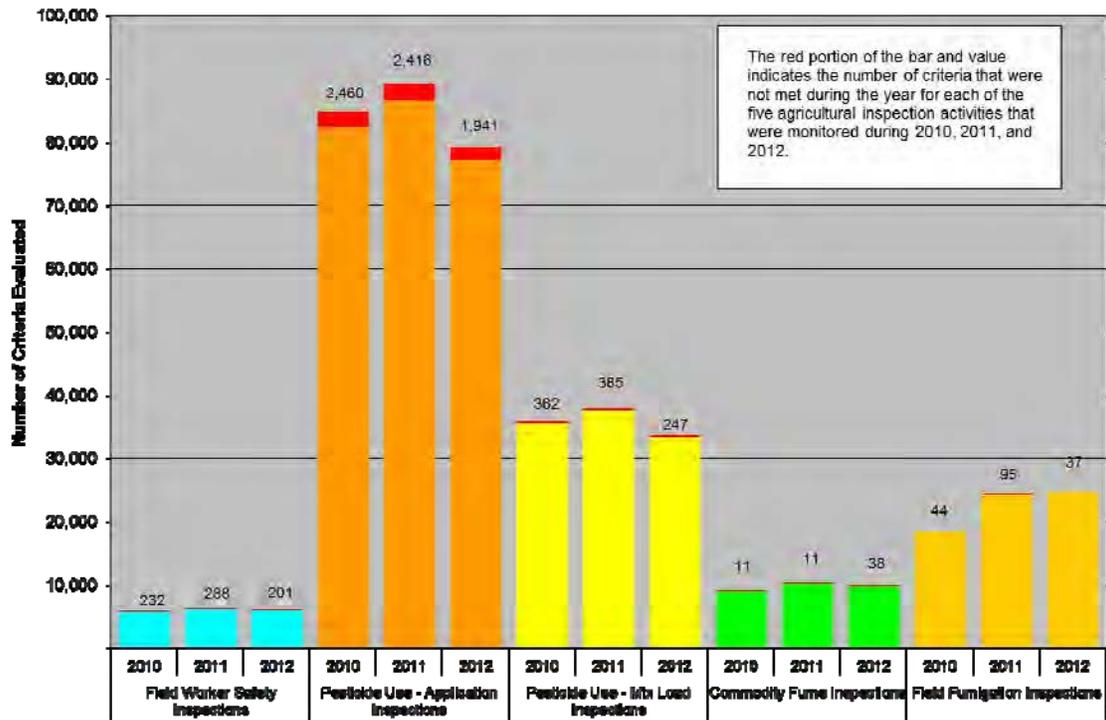
### **B) What the Inspection and Compliance Rate Data Tells Us**

DPR collects significant amounts of data on its activities, as well as those of the CACs and their staffs. The two enforcement-related data sources include the inspection tracking and enforcement action databases.

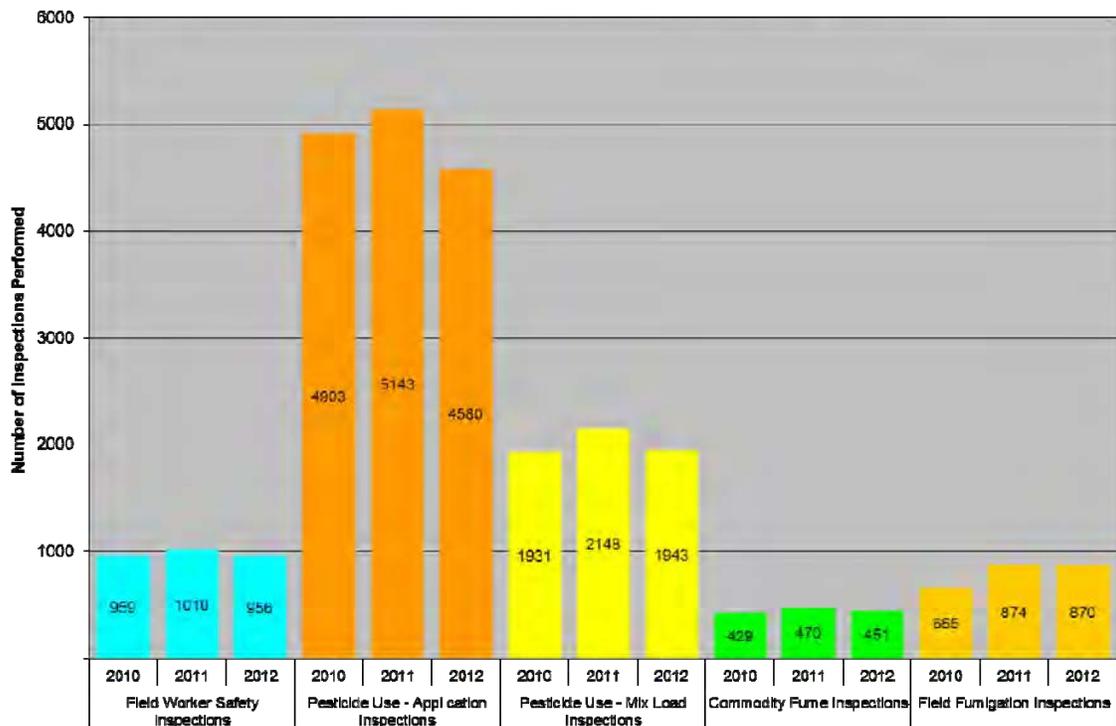
The Enforcement Branch inspection tracking database collects information on 17,104 inspections conducted annually by the CACs in both agricultural and non-agricultural (including structural) pesticide use settings and compliance rates with their respective laws and regulations. Information in this database includes the number and type of inspections, the sections of laws and regulations that were the subject of the inspections and the compliance rates for each of the criteria.

The following charts represent inspections and compliance rates in agricultural and structural pesticide use inspections conducted annually by the CACs for 2010, 2011 and 2012. "Criteria evaluated" represents the number of times a particular category of mandated human health and environmental statute or regulation was inspected and evaluated for compliance with laws and regulations. The most common violations across all agricultural and structural inspections are summarized for 2010, 2011 and 2012.

**Statewide Agricultural Inspection Criteria Evaluated In 2010, 2011, and 2012**



**Statewide Agricultural Inspections Performed In 2010, 2011, and 2012**



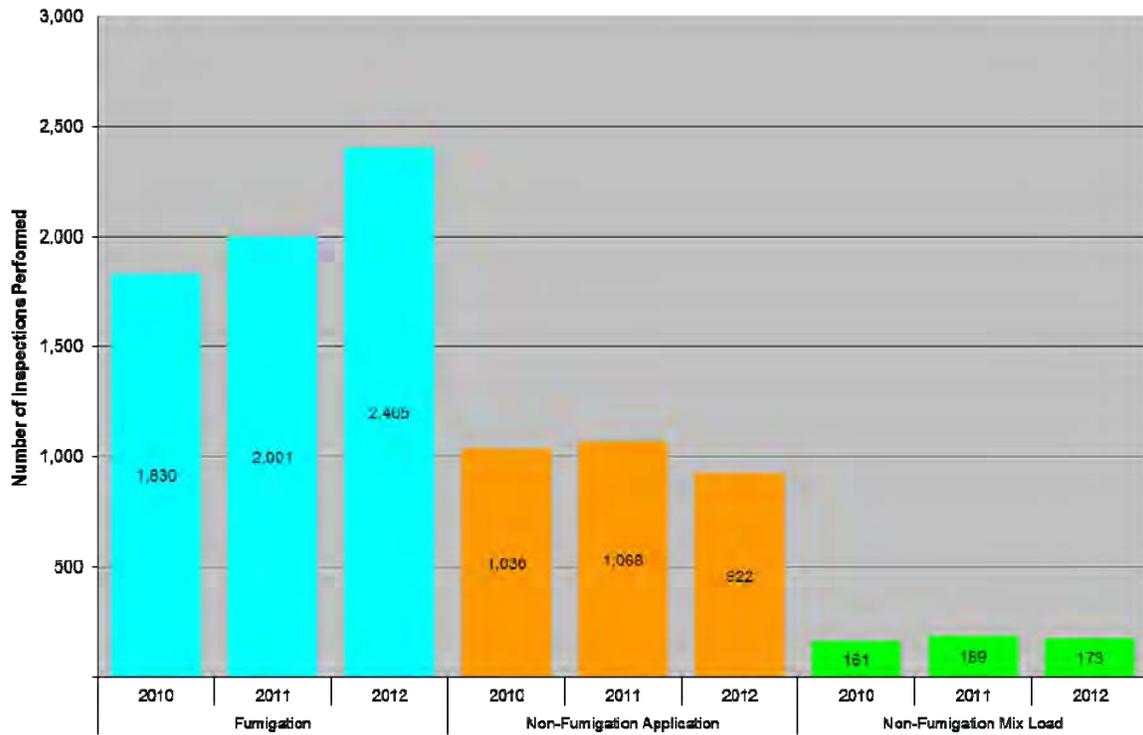
Most Common Pesticide Use Violations Found in Agricultural Inspections

Criteria Evaluated	2010 Criteria Evaluated			2011 Criteria Evaluated			2012 Criteria Evaluated		
	Met	Not Met	Total	Met	Not Met	Total	Met	Not Met	Total
Follows Labeling and/or Permit Conditions	20069	484	20553	21580	486	22066	20151	399	20550
Regulations - Personal Protective Equipment	8886	427	9313	9472	441	9913	8679	330	9009
Respiratory Protection	8295	417	8712	8200	390	8590	7589	253	7842
Handler Training	12064	388	12452	12807	360	13167	11489	256	11745
Emergency Medical Care, Posting	7210	329	7539	7892	327	8219	7177	233	7410
Handler Decontamination Facilities	10104	260	10364	11115	269	11384	9997	219	10216
Pest Control Business / Equipment Registered	7494	270	7764	8250	250	8500	7453	225	7678
Service Container Labeling	2575	226	2801	2696	252	2948	2574	177	2751
Labeling Available at Use Site	7653	194	7847	8265	212	8477	7639	167	7806
Application Specific Information / Field Workers	1464	130	1594	1452	140	1592	1428	110	1538
Hazard Communication / Field Workers	1763	115	1878	1740	161	1901	1641	101	1742
PCB Licensed	4210	113	4323	4582	106	4688	4094	102	4196
Pesticide Use Records Kept / 2 years	2604	95	2699	2514	78	2592	2242	73	2315
Equipment Identified - PCB	3448	82	3530	3783	82	3865	3457	69	3526
Pesticide Use Reports Submitted	1876	82	1958	1762	74	1836	1654	72	1726
Containers Labeled / Closures	9708	75	9783	10358	83	10441	9497	53	9550
Hazard Communication / Handler	2130	71	2201	2041	74	2115	1821	63	1884

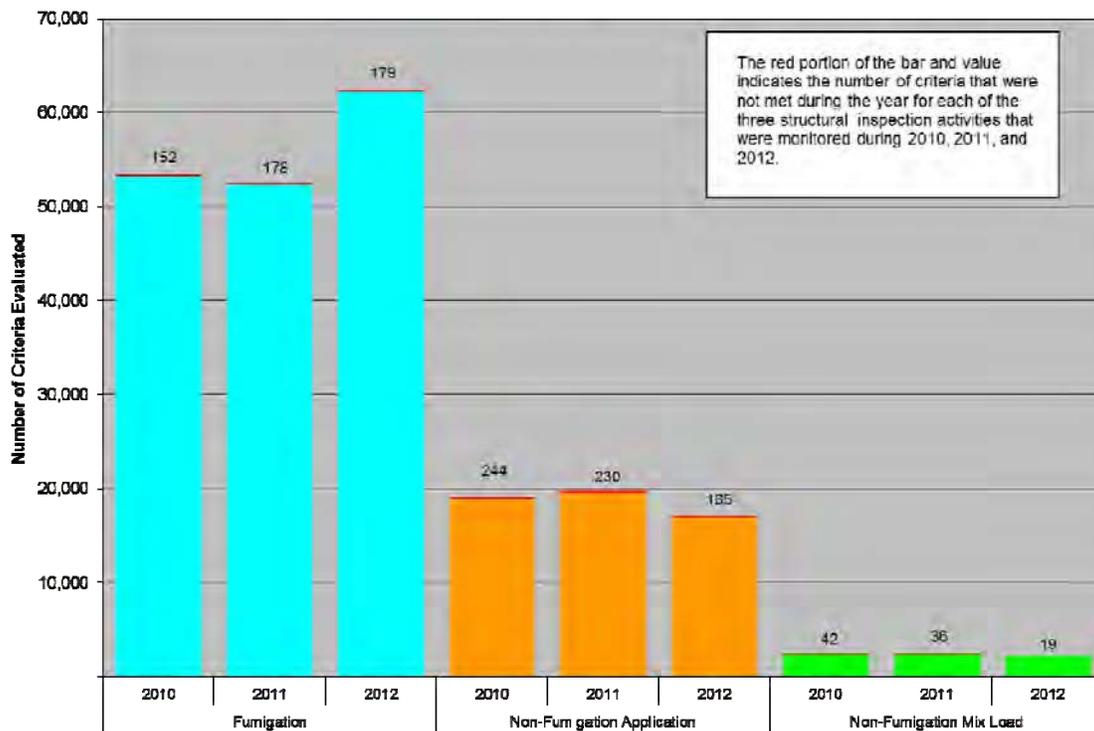
Criteria Evaluated	Overall 2010-2012 Criteria Evaluated			
	Met	Not Met	Total	Percent Compliance
Follows Labeling and/or Permit Conditions	61800	1369	63169	97.83
Regulations - Personal Protective Equipment	27037	1198	28235	95.76
Respiratory Protection	24084	1060	25144	95.78
Handler Training	36360	1004	37364	97.31
Emergency Medical Care, Posting	22279	889	23168	96.16
Handler Decontamination Facilities	31216	748	31964	97.66
Pest Control Business / Equipment Registered	23197	745	23942	96.89
Service Container Labeling	7845	655	8500	92.29
Labeling Available at Use Site	23557	573	24130	97.63
Application Specific Information / Field Workers	4344	380	4724	91.96
Hazard Communication / Field Workers	5144	377	5521	93.17
PCB Licensed	12886	321	13207	97.57
Pesticide Use Records Kept / 2 years	7360	246	7606	96.77
Equipment Identified - PCB	10688	233	10921	97.87
Pesticide Use Reports Submitted	5292	228	5520	95.87
Containers Labeled / Closures	29563	211	29774	99.29
Hazard Communication / Handler	5992	208	6200	96.65

Query performed on March 20, 2014 .

**Statewide Structural Inspections Performed In 2010, 2011, and 2012**



**Statewide Structural Inspection Criteria Evaluated In 2010, 2011, and 2012**



Most Common Pesticide Use Violations Found in Structural Inspections

Criteria Evaluated	2010 Criteria Evaluated			2011 Criteria Evaluated			2012 Criteria Evaluated		
	Met	Not Met	Total	Met	Not Met	Total	Met	Not Met	Total
Respiratory Protection	3801	131	3932	3394	137	3531	3245	118	3363
Regulations - Personal Protective Equipment	3100	84	3184	2645	84	2729	2580	65	2645
Follows Labeling and/or Permit Conditions	7813	79	7892	7386	61	7447	7748	67	7815
Service Container Labeling	1568	50	1618	1596	66	1662	1454	33	1487
Fumigation - Written Notice to Occupant	3431	40	3471	3379	55	3434	3224	48	3272
Emergency Medical Care, Posting	3225	31	3256	3224	50	3274	3340	29	3369
Registered in County / 24 Hour Notice (Fume)	5513	35	5548	5962	51	6013	6572	22	6594
Handler Training	3614	29	3643	3586	40	3626	3844	29	3873
Monthly PUR Submitted	682	26	708	741	49	790	685	22	707
Standards and Records Requirements	780	13	793	1025	35	1060	988	17	1005
Labeling Available at Use Site	2828	20	2848	2680	17	2697	2627	15	2642
General Fumigation Safe-Use Requirements	2502	11	2513	2949	21	2970	3921	18	3939
Connecting Structures	824	9	833	899	15	914	1543	20	1563

Criteria Evaluated	Overall 2010-2012 Criteria Evaluated			
	Met	Not Met	Total	Percent Compliance
Respiratory Protection	10440	386	10826	96.43
Regulations - Personal Protective Equipment	8325	233	8558	97.28
Follows Labeling and/or Permit Conditions	22947	207	23154	99.11
Service Container Labeling	4618	149	4767	96.87
Fumigation - Written Notice to Occupant	10034	143	10177	98.59
Emergency Medical Care, Posting	9789	110	9899	98.89
Registered in County / 24 Hour Notice (Fume)	18047	108	18155	99.41
Handler Training	11044	98	11142	99.12
Monthly PUR Submitted	2108	97	2205	95.60
Standards and Records Requirements	2793	65	2858	97.73
Labeling Available at Use Site	8135	52	8187	99.36
General Fumigation Safe-Use Requirements	9372	50	9422	99.47
Connecting Structures	3266	44	3310	98.67

Query performed on March 20, 2014.

The DPR Enforcement Actions Tracking System (ENFActs) collects information on the closed enforcement actions taken by the counties and includes the sections of laws and regulations violated and the fine amounts assessed. Information in this database includes the person or firm cited, date of violation(s), section(s) violated, type of enforcement action taken, pesticide(s) involved, date of action, date case closed, proposed fine(s) and final fine(s).

### **C) How DPR Uses Inspection and Compliance Rate Information**

The inspection and compliance data provide basic information used in the development and assessment of DPR's annual work plan, U.S. EPA reporting requirements and county pesticide enforcement work plans and evaluations. The Enforcement Branch determines and sets performance goals in its operational planning process based on an analysis of the previous year's data. Evaluation of data may be used to modify or change performance goals for both DPR and the CACs.

The county pesticide regulatory activity workload data are used as one basis for funding a portion of CAC pesticide activities. (Other funding sources for county pesticide enforcement programs include county general funds and unclaimed gas tax.) The data also help measure a county's annual performance, e.g., did it meet the workload goals of its annual work plan.

Enforcement Branch Managers and staff review inspection and enforcement data to assess the strengths and weaknesses of DPR's pesticide regulatory program. The data measure the effectiveness of new laws, regulations, policies and procedures. An example is the amendment of the Enforcement Response Regulations (Title 3, California Code of Regulations § 6128, §6130 and §6131) in 2011.

DPR and the CACs are actively reviewing enforcement metrics, inspection data, trends and actions taken to gauge the effectiveness of the laws and regulations to establish a higher uniform level of enforcement and impact on compliance and recidivism. This review will also assess the impact of the regulations on CAC workload.

The Enforcement Branch collects and analyzes data available through DPR and other sources for developing enforcement metrics on a statewide, regional and local basis. Information and analyses are shared throughout DPR to address worker protection, integrated pest management, water quality, air quality (contributions to smog and ozone depletion) and endangered species protection. In conjunction with DPR management, the Enforcement Branch:

- Identifies activities with high levels of non-compliance that pose a high risk of causing environmental harm.
- Identifies activities or entities with the highest incidences of non-compliances.
- Identifies chronic or recalcitrant violators (local, regional or statewide).
- Identifies local, regional and statewide violation patterns and trends.
- Identifies correlations between areas of greatest non-compliance.
- Sets realistic goals for incorporation into DPR activities and CAC work plans and develops methodologies to measure progress.
- Develops additional environmental indicators.

## **II. DPR'S ENFORCEMENT PROGRAM**

### **A) Overview**

#### **Mission**

The California Department of Pesticide Regulation's (DPR's) mission is to protect human health and the environment by regulating pesticide sales and use and by fostering reduced-risk pest management.

#### **Enforcement Program Overview**

#### **Authority**

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) specifically authorizes state regulation of the sale and use of federally registered products. Generally, the U.S. Environmental Protection Agency (U.S. EPA) has authority to enforce FIFRA requirements. However, FIFRA acknowledges that states have a pivotal role in regulating pesticides in their own jurisdictions, provided that their programs are at least as restrictive as those under federal law. Like other states, California has been delegated primary enforcement responsibility for pesticide use/misuse violations under Sections 26 and 27 of FIFRA.

Over the years, the California Legislature has passed stringent laws giving DPR pesticide-related statutory responsibilities and authorities including the evaluating and registering of pesticide products; statewide licensing of commercial pesticide applicators, dealers and consultants; monitoring the environment; and testing fresh produce for pesticide residues. In addition, DPR is also charged with verifying that pesticides produced and/or sold in the state adhere to required standards and practices, investigating health and environmental episodes and enforcing pesticide use laws and regulations through 56 County Agricultural Commissioners (CACs) serving 58 counties.

Enforcing U.S. EPA pesticide use laws and regulations is a joint responsibility of the DPR and the CACs who administer pesticide use enforcement at the local level. California Food and Agricultural Code (FAC) section 2281 outlines respective responsibility for enforcement of the pesticide laws and regulations by the CACs.

DPR, U.S. EPA Region 9 and the CACs are parties to a cooperative agreement that ensures a unified and coordinated program of pesticide episode reporting, investigation, and enforcement actions in California.

#### **Other Partnerships, Agreements, and Memoranda of Understanding (MOU)**

The Structural Pest Control Board (SPCB) will transfer from DPR to the new Business and Consumer Services Agency on July 1, 2013, under Gov. Brown's Government Reorganization Plan approved by the Legislature in June 2012. The SPCB was transferred to DPR from the Department of Consumer Affairs in October 2009 as part of former Gov. Schwarzenegger's directive to consolidate and streamline state government. The SPCB administers licensing of structural pest control businesses and structural applicators. FAC section 15201.1 outlines general responsibilities and roles for DPR, SPCB and the CACs in licensing and pesticide use for structural pest control activities. The FAC specifies that the CACs regulate pesticide use in structural activities under the direction and supervision of DPR.

The Department of Public Health (DPH) oversees the activities of local vector control (public health/mosquito abatement) agencies. DPR, DPH and the CACs are parties to a memorandum of understanding

(MOU) that outlines responsibilities and coordination relating to vector control activities. It addresses pesticide availability, applicator certification, pesticide use report and incident reporting.

The Department of Industrial Relations (DIR) oversees activities related to workplace safety. DPR, DIR and the CACs are parties to a MOU that outlines responsibilities and coordination to worker and workplace safety when pesticides are involved. It addresses authority for response to investigations and sharing illness incident information.

Additionally, DPR has an agreement with the U.S. Department of Agriculture (USDA) to sample food commodities for the USDA Food Safety Program for pesticide residues. DPR refers cases of illegal pesticide residue on fresh produce (from DPR's California Pesticide Residue Monitoring Program) of potential public health concern to the U.S. Food and Drug Administration for possible national recall. The Enforcement Branch immediately upon detection of illegal pesticide residues removes the sampled produce from the channels of trade.

### **Enforcement Program Goals and Objectives**

One of DPR's five strategic plan goals are to ensure assistance and enforcement. DPR recognizes that a strong and equitable compliance and enforcement program is the cornerstone to ensuring that people and the environment are not exposed to unacceptable pesticide risks. The goals focus on the following objectives:

- Objective 1: Obtain compliance through clear, equitable rules; education; licensing; and strong, effective enforcement.
- Objective 2: Provide training, guidance, and support to CACs.
- Objective 3: Ensure effective and consistent enforcement.
- Objective 4: Through continuous review of data and information, improve compliance of enforcement programs.

## **B) DPR Enforcement Program Components**

### **1) Oversight of Counties and County Activities**

CAC staff inspect the operations and records of growers, pest control applicators, operators and businesses, pest control dealers and agricultural pest control advisers. They also certify private applicators and issue restricted materials permits. Additionally, CAC staff train pesticide users, conduct pesticide episode/priority investigations and conduct fieldworker and pesticide handler inspections to assure compliance with worker protection standards and other pesticide use requirements. State fiscal-year summaries of county workload can be found in the California Pesticide Regulatory Activities Monthly Report (PRAMR) online at: [www.cdpr.ca.gov/docs/enforce/report5.htm](http://www.cdpr.ca.gov/docs/enforce/report5.htm).

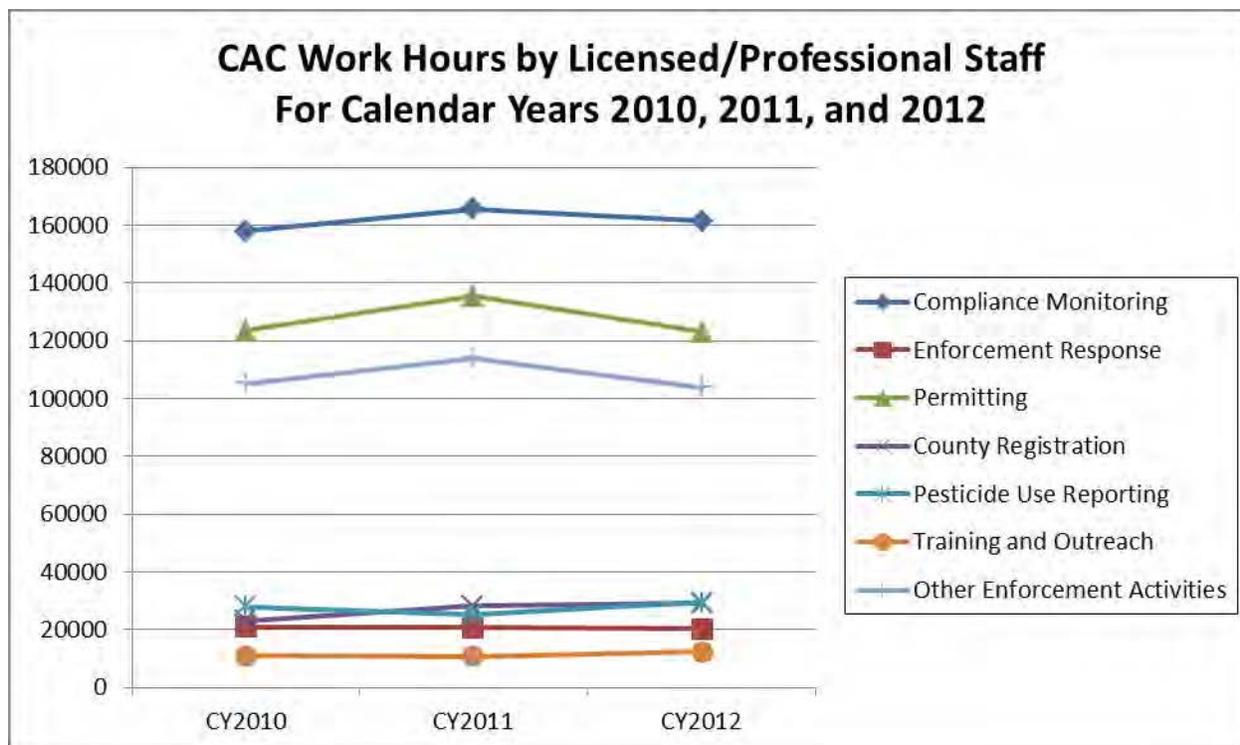
California law designates DPR as the agency responsible for delivering an effective statewide pesticide regulatory program. However, the Legislature delegated local administration of the Pesticide Use Enforcement program to the CACs, governed by the instructions and recommendations of the DPR. The success of the *statewide* use enforcement program therefore depends on DPR oversight and guidance and the CACs' efforts to implement an effective program. DPR uses its statewide authority to oversee, evaluate and improve the CACs' use enforcement programs. DPR assists the CACs in planning and developing adequate county programs; evaluates the effectiveness of the local programs; and assures corrective actions are taken in areas needing improvement.

The goal of the DPR's and the CAC's enforcement program is to protect human health and the environment of California. DPR and CAC staff strive for consistent enforcement of the pesticide laws and regulations in all 58 counties. DPR and CACs meet these goals by following work plans with directed priorities and the Enforcement Response Regulations.

### Annual and Multi-year County Pesticide Enforcement Work Plans and Evaluations

As part of an organization-wide effort to incorporate continuous quality improvement into California's pesticide enforcement program, DPR and CACs implement a process that includes state and local program review, planning, implementation and evaluation. DPR's guidance targets core enforcement program priorities and evaluates the effectiveness of county programs. County work plans identify state, regional and local compliance problems, emerging issues and measurable solutions based on available resources. DPR utilizes performance standards to evaluate the effectiveness of the county's pesticide enforcement program.

DPR's three regional offices located in West Sacramento, Fresno, and Anaheim assist CACs in developing annual work plans that detail each county's priorities in improving enforcement, compliance and permitting. The work plans have clearly stated goals and performance measures, balancing DPR's statewide enforcement priorities with local conditions unique to each county. In addition, DPR regional staff evaluates CAC performance, using objective-based performance measures that examine how well counties are targeting local problems and patterns of continuing violations. CAC work plans, by county, can be downloaded at: [www.cdpr.ca.gov/docs/county/enf\\_stat\\_profile.htm](http://www.cdpr.ca.gov/docs/county/enf_stat_profile.htm).



California Environmental Protection Agency (Cal/EPA) Complaint Tracking and Response System

The Cal/EPA Single Complaint Tracking Steering Committee was established to create a single complaint tracking system to receive, track and respond to environmental or human health complaints reported to Cal/EPA Boards, Departments and Offices. The web-based system provides a consistent, single point of contact for the public via Internet access through the various Cal/EPA web pages. The primary point of contact is an online complaint form to collect information about environmental or human health complaints and/or alleged violations. The system is used to relay complaint information directly to the appropriate Cal/EPA Boards, Departments and Offices or its local partners for investigation, coordination and potential enforcement.

DPR responds to all complaints, notifications, or reports of incidents that allege misuse of pesticides, pesticide exposure (including odor), or pesticide damage or injury to crops, property, humans, wildlife or the environment, potential illegal sales or other related episodes.

When a pesticide use-related complaint is filed through Cal/EPA’s Single Complaint Tracking system, DPR staff relay the complaint to the appropriate Enforcement Branch regional office and CAC for investigation. The CAC’s office is the lead agency for pesticide use-related complaints.

2010-2012 Cal/EPA Single Complaint Tracking System Complaints Received

<b>Cal/EPA Single Complaint Tracking System - Inputs</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Total Complaints Received by Cal/EPA Wide for Tracking/Referral	841	1033	1023
Cal/EPA Complaints Received and Marked as Pesticide-Related (Received by DPR) and Referred to the CACs for Investigation	104	116	117

**2) Food Safety**

DPR’s Food Safety Program monitors compliance with pesticide laws to ensure that sampled produce meets pesticide safety standards. Sampling and laboratory analysis serve to detect each of the two categories of illegal residues: (1) pesticide residues that exceed established tolerance levels and (2) residues of pesticides for which no tolerance has been established for a specific crop. When illegal residues are found, DPR initiates an investigation to remove any produce with illegal residues from sale and distribution.

DPR administers the state-mandated California Pesticide Residue Monitoring Program that involves produce sampling and data collection activities. DPR’s Program is the most extensive state residue-monitoring program in the nation. It is the final check in an integrated network of programs designed to ensure the safe use of pesticides in California.

DPR Enforcement staff sample individual lots of domestically grown and imported produce and deliver them to a California Department of Food and Agriculture (CDFA) laboratory where they are analyzed to determine compliance with U.S.EPA approved tolerances. Routine samples are analyzed for more than 200 pesticides and breakdown products. In addition, selected samples receive specific analysis for non-screenable pesticides of dietary and enforcement concern. Samples are collected throughout the channels of trade -- packing sites, wholesale, and retail markets. DPR and CACs investigate every incident in

which the pesticide residue monitoring program detects illegal pesticide residues in California grown produce. If over-tolerance or no-tolerance-established pesticide residues are detected, DPR takes actions such as issuing quarantine and stop sales orders.

Another component of DPR’s Food Safety Program is participation in United States Department of Agriculture’s (USDA) Pesticide Data Program (PDP) and Microbiological Data Programs (MDP). It should be noted that USDA does not report back to the states the analytical results on residue findings for each sample collected, but publishes annual reports which are available on the USDA website.

PDP: USDA began the PDP in 1991 to test commodities in the U.S. food supply for pesticide residues. PDP tests for over 290 pesticides in over 50 different food commodities. This program maintains an electronic database that serves as a central data repository. USDA prepares annual summaries of the PDP data that are publicly available on the Internet. The summaries provide data on pesticide dietary exposure, food consumption and pesticide use. PDP data are used by the U.S. EPA to make realistic assessments of dietary pesticide risk and for the ongoing review of pesticide tolerances. Besides U.S. EPA, the U.S. Food and Drug Administration (US FDA), academic institutions, food producers, chemical manufacturers and environmental groups use PDP data. PDP data are statistically representative of the overall residue situation for a particular pesticide, commodity, or place of origin.

MDP: The goal of the MDP Program was to provide data on the presence of foodborne pathogens and indicator bacteria on fresh fruit, vegetables and more recently, fish. MDP currently tests for six microorganisms: generic E. coli, shiga toxin producing E.coli (STEC), enterotoxigenic E.coli (ETEC), E.coli 0157:H7, Salmonella and Shigella. Sampling for MDP was terminated in November 2012 because USDA lost the program funding.

<b>Food Safety – USDA Samples Collected - Outputs</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Number of State Pesticide Residue Program Samples Collected	3,020	2,707	3501
Number of USDA – PDP Samples Collected	2,285	2,418	2379
Number of USDA – MDP Samples Collected	1,341	960	750
<b>Food Safety – DPR Residue Sample Analyses Results - Outcomes</b>			
Number of Samples with No Pesticide Residues Detected	1,957	1,647	2,012
Number of Samples with Pesticide Residues within Legal Tolerance	991	968	1,361
Number of Samples with Illegal Pesticide Residue	72	92	128

### **3) Registration, Licensing and Product Compliance**

As stated earlier, DPR's mission is to protect human health and the environment by regulating pesticide sales and use and by fostering reduced-risk pest management. Three major components of DPR's multi-pronged approach include product registration, licensing of individuals and businesses that perform or supervise pest control activities and surveillance of products sold in the marketplace to ensure they are registered and meet California's health, environmental and safety standards.

#### Product Registration

Before pesticides can be sold or used in California, they must be registered both by U.S. EPA and by DPR. Scientists in both organizations evaluate the safety and potential environmental effects of products before they are registered. The California evaluation is focused on use under California conditions – whether in an agricultural field or an urban setting. Before registration, DPR scientific staff (toxicologists, biologists, entomologists, plant physiologists and chemists) reviews data on the product to ensure that the labeling is proper and will not cause health or environmental problems. DPR scientists review data to determine a product's potential to cause human health problems; how it behaves in the environment; its effectiveness against targeted pests (efficacy); how it breaks down in the environment and its potential to contaminate soil, water and air; its effects on fish and wildlife; and the degree of worker exposure resulting from its labeled use. Unregistered pesticide products – sometimes sold over the Internet or by mail order – may have not undergone this kind of scrutiny and may pose unrecognized hazards to health or the environment.

#### Licensing and Certification

DPR's Pest Management and Licensing (PML) Branch ensure that pesticides are handled and used according to state and federal laws and label directions. Any individual who recommends, uses or supervises the use of a pesticide must take and pass DPR examinations covering the type of pest control work they perform prior to being issued a license or certificate by DPR. These individuals include applicators, aircraft pilots, pest control advisers and pest control dealer agents.

In addition, to maintain and renew their licenses or certificates, these individuals must take continuing education (CE) to ensure they are knowledgeable of current pesticide laws and regulations; the proper, safe and efficient use of pesticides; protection of the public health, environment and property; and safe working conditions for agricultural and pest control workers.

To ensure the availability of quality CE courses, PML reviews and approves all CE instructional opportunities including college level courses; demonstrations or presentations of current applied research; professional or technical seminars; demonstrations related to pesticides or pest management; and field trial tours. Continuing education sponsors must submit course outlines/agendas and descriptions to DPR for review and approval prior to the course date.

In order to provide improved quality of CE courses, DPR worked with stakeholders to recommend regulation changes to sections 6512 and 6513 of the California Code of Regulations. In 2012, DPR also held workshops for CE stakeholders at two different locations, Sacramento and Fresno, as a form of outreach regarding these proposed regulation changes. In 2013, the proposed changes will be noticed with the Office of Administrative Law.

Finally, DPR also randomly audits approved CE courses to provide feedback to individual sponsors so they can make improvements to future courses. Audits of license renewal applications are also conducted to verify attendance and CE hours claimed by course attendees.

Pest control businesses (including maintenance gardeners), dealers and brokers must also obtain licenses with periodic renewals and show proof that they continue to meet insurance obligations and retain qualified persons on staff.

The table below summarizes the Licensing Program outputs, including new and renewed licenses or certifications and number of CE courses that were reviewed and approved.

<b>DPR Licensing and Registration - Outputs</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Number of Registered Products	12,885	12,913	12,091
Number of Pesticide Registrants	1,455	1,437	1,397
New Licenses and Certificates Issued	3,828	2,170	2,379
Renewed Licenses and Certificates Issued	13,974	12,172	12,188
Exams Administered By DPR	7,844	8,451	7,951
Continuing Education Courses Accredited	1,570	1,541	1,552
Continuing Education Courses Audited	10	14	16

### Product Compliance

DPR’s Product Compliance Branch (PCB) is responsible for promoting compliance with California and federal laws and regulations related to labeling compliance, sale and distribution of pesticide products. The PCB staff conducts product compliance inspections at pesticide manufacturing facilities and businesses throughout the state to ensure that products used in California are registered and approved by U.S. Environmental Protection Agency (U.S. EPA) and DPR. These include the following type of inspections:

- Marketplace Surveillance Inspections (MSIs) are conducted where pesticides are sold and distributed. PCB staff informs and educate sellers about pesticides and compliance requirements.
- Producing Establishment Inspections (PEIs) are performed where pesticides are manufactured, processed and packaged or re-packaged. These inspections are conducted on behalf of U.S. EPA by federally credentialed PCB staff.

When staff uncovers sales of unregistered pesticide products, the PCB initiate investigations and forward those cases to the DPR Office of Legal Affairs to assess administrative civil penalties through settlements or other enforcement actions.

In addition, the Product Compliance Branch conducts audits to ensure that all pesticide sellers pay their fair share of applicable registration and “mill assessment” fees that help support DPR’s regulatory programs at both the state and county level.

Mill fees must be paid on all pesticide sales, including agricultural and non-agricultural products. This includes not only insecticides and herbicides, but also many products not generally thought of as pesticides, including sanitizers, disinfectants, mildew removers, pool chemicals, and insect repellants. Ensuring that all pesticide sellers pay the required mill fee makes the marketplace a level playing field

for all pesticide sellers -- assuring that those who comply are not operating at a disadvantage to those who do not. The Product Compliance Branch conducts investigations and audits to identify pesticide sellers who are not paying or are underpaying mill fees. Sellers must pay any money due and a penalty, and may be subject to administrative or civil penalties.

DPR conducts inspections and investigations to ensure compliance with product registration and mill assessment reporting (funds collected based on sales of product into California). The following is a summary of these statistics:

The following is a summary of annual product compliance activity statistics:

<b>DPR State Product Compliance Activities – Outputs</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Number of Product Compliance Inspections Conducted	182	184	206
Number of Product Compliance Audits Completed	85	93	67
Number of Cases Pursued by the Office of Legal Affairs	132	149	118
<b>DPR State Product Compliance Activities – Outcomes</b>			
Cases Forwarded to U.S.EPA for Action	40	42	49
Number of Findings of Unregistered Products	835	469	345
Number of Cases Settled by DPR	118	123	123
Civil Penalties Collected by DPR	\$2,707,880.00	\$2,885,530.00	\$3,868,738.00

#### **4) Agricultural Pest Control and Pesticide Use Reporting (PUR)**

California's pesticide use reporting program had recognized as the most comprehensive in the world. Limited use reporting requirements been in force since 1950. However, these requirements were substantially changed in response to demands for more realistic and comprehensive pesticide use data for estimating dietary risk, exposure and potential risk to workers. In 1990, California became the first state to require full reporting of agricultural pesticides. Under the program, all agricultural pesticide use must be reported monthly to the county agricultural commissioner who, in turn, reports the data to DPR.

California has a broad legal definition of “agricultural use”, so the reporting requirements include pesticide applications to parks, golf courses, cemeteries, rangeland, pastures and along roadside and railroad rights of way. In addition, all post-harvest pesticide treatment of agricultural commodities must be reported, along with all pesticide treatment in poultry and fish production, as well as some livestock applications.

Structural pest control operators, professional gardeners and other nonagricultural pest control operators continue to report all pesticide use as they did under the earlier regulations. The primary exceptions to the full use reporting program requirements are home-and-garden use and most industrial and institutional uses.

DPR staff scientists use pesticide use data in developing dietary risk assessments; assessing potential groundwater contamination from the use of specific pesticides; determining VOC emissions; and assessing impacts on endangered species. DPR also uses the data to analyze how, when and where pesticides are used on different crops. Reduced-risk pest management alternatives can then be developed considering the different regions of the state and commodities grown in these regions.

The pesticide use data can also be correlated with inspection data to assess if inspections are adequate during periods of high use, or if an adequate number of inspections are being conducted during the peak use period of products of particular concern.

Site-specific use report data, combined with geographic data on sensitive sites including schools, farm labor camps, urban areas, water bodies (streams, lakes, rivers) and endangered species habitats, help CACs resolve potential pesticide use conflicts. Other government agencies, researchers, environmental advocates and public interest groups use the PUR data extensively in carrying out their programs.

Annual statewide and county specific pesticide use data summaries by commodity and by pesticide dating back to 1989 can be obtained from DPR's website at [www.cdpr.ca.gov/docs/pur/purmain.htm](http://www.cdpr.ca.gov/docs/pur/purmain.htm). Queries against the PUR databases dating back to 1990 can be run from the California Pesticide Information Portal website at <http://calpip.cdpr.ca.gov/main.cfm>.

<b>Agricultural Pesticide Use – Inputs</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Agricultural Pest Control Businesses	4,600	4,700	4,766	4,938
Agricultural Pest Control Operators, Advisers, & Pilots	24,200	24,200	23,837	23,801
Private Applicators	18,200	18,591	18,087	18,356
Property Operators (Restricted & Non-Restricted) <sup>1</sup>	28,700	27,300	23,718	23,814
Number of Agricultural Fields/Sites <sup>1</sup>	175,433	179,892	153,908	158,922
<b>Agricultural Pesticide Use – Outputs</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Number of Production Agricultural Applications <sup>2</sup>	2,093,087	2,332,967	2,476,418	2,587,888
<b>Pesticide Use – Outcomes</b>				
Pounds of Pesticide Active Ingredients Used in Production Agriculture	147,814,975	160,880,592	176,934,664	170,645,300
<b>All Other<sup>3</sup> Pesticide Use – Outputs</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Number of Other Applications	12,169,775	16,579,268	19,335,546	22,623,028
<b>All Other Pesticide Use – Outcomes</b>				
Pounds of Pesticide Active Ingredients Used – Other	11,760,742	15,150,052	14,930,634	15,330,489

<sup>1</sup>Statistics as reported in the annual pesticide use report database.

<sup>2</sup>Pesticide applications may contain one or more pesticide products (referred to as a tank mix) and each product may contain one or more active ingredients (chemicals). Also of note, California requires that spray adjuvants (including emulsifiers, spreaders and stickers) that enhance the efficacy of a pesticide be registered as a pesticide and reported. The number of applications reflects the number of each pesticide product reported. For example, if one application is composed of two products, the number of applications would equal two, i.e., one for each product. Therefore, the number of pesticide applications made in California is approximately 25-50 percent less than the number of records indicated below.

<sup>3</sup>“All Other” applications include post-harvest commodity fumigations; landscape maintenance in parks, cemeteries and golf courses; rights of way; public health (vector control) pesticide applications; and structural pest control. Under current regulatory requirements not all applications are reported (home use, indoor industrial and institutional), creating a data gap in the “total” figure.

The following chart displays detailed compliance and non-compliance (including number of violations) data from DPR's inspection tracking database on the number of inspections conducted by the CACs in 2010, 2011 and 2012 in the *agricultural* use setting. Each inspection type not only evaluates a particular category of mandated human health and environmental requirements, but also unique sections of laws and regulations pertaining to that specific inspection type.

Agricultural Inspection Type	CAC Inspections Conducted			Compliance Elements Inspected			
	Total Number	With Violations	100% Compliance	Compliant	Non-Compliant	Total Elements	Rate
Field Worker Safety							
2010	959	147	84.6%	5,668	232	5,900	96.1%
2011	1010	170	83.2%	6,117	288	6,405	95.5%
2012	956	126	86.8%	6,017	201	6,218	96.8%
Pesticide Application							
2010	4,903	814	83.4%	82,344	2,460	84,786	97.1%
2011	5,143	850	83.5%	86,763	2,416	89,179	97.3%
2012	4,580	656	85.7%	77,241	1,941	79,182	97.5%
Pesticide Mix-Load							
2010	1,931	148	92.3%	35,519	362	35,881	99.0%
2011	2,148	167	92.2%	37,583	385	37,968	99.0%
2012	1,943	116	94.0%	33,442	247	33,689	99.3%
Commodity Fumigation							
2010	429	8	98.1%	9,081	11	9,092	99.9%
2011	470	7	98.5%	10,134	11	10,145	99.9%
2012	451	14	96.9%	9,802	38	9,840	99.6%
Field Fumigation							
2010	655	28	95.7%	18,410	44	18,454	99.8%
2011	874	53	93.9%	24,284	95	24,379	99.6%
2012	870	27	96.9%	24,564	37	24,601	99.8%
Records							
2010	3,936	578	85.3%	55,999	1,488	57,487	97.4%
2011	3,816	569	85.1%	54,143	1,457	55,600	97.4%
2012	3,467	422	87.8%	49,000	1,133	50,133	97.7%
<b>Total Agricultural</b>							
2010	12,813	1,723	86.6%	206,985	4,597	211,582	97.8%
2011	13,461	1,816	86.5%	219,024	4,652	223,676	97.9%
2012	12,267	1,361	88.9%	200,066	3,597	203,663	98.2%

## **5) Structural Pest Control and Pesticide Use Reporting**

DPR has primary authority for enforcing pesticide use by structural pest control licensees, overseeing the County Agricultural Commissioners (CACs) who administer the local enforcement program. The Structural Pest Control Board (SPCB) is responsible for licensing persons engaged in structural pest control work. CAC and SPCB staffs periodically perform similar enforcement activities such as business office and records inspections. When SPCB encounters possible pesticide use violations, they refer those findings to the CAC for follow-up investigation.

SPCB administers licensing of structural pest control applicators, field representatives, structural pest control operators and registered companies; enforces licensing provisions; and ensures consumer protection.

Four counties (Orange, Los Angeles, San Diego and Santa Clara) participate in an expanded Structural Fumigation Enforcement Program (Business and Profession Code §8698). In 1993, representatives of the local structural pest control industry in Los Angeles and Orange counties requested their respective CACs to increase monitoring of the structural fumigation industry based on their awareness of substandard structural fumigations that were damaging the reputation of the local structural pest control industry. Santa Clara County was added to the Program in 2008; San Diego County joined the Program in 2009.

Structural pest control companies (in the four participating counties) pay \$5 per completed structural fumigation directly to the CAC. This increased funding partially offsets the cost of increased inspections and associated structural fumigation enforcement activities. These expanded activities are critical to gaining a higher level of compliance with pesticide laws and regulations that result from an increased presence of county inspectors in the field. This program helps to ensure the health and safety of workers, the public and the environment.

In January 2008, Assembly Bill (AB) 1717 replaced the annual county notification requirements for structural pest control businesses and licensees with a county registration program. A key section of this

law requires that 24-hour advance notice of structural fumigations be provided to CACs. This advanced notice assists the CACs in locating fumigations to monitor and inspect.

<b>Structural Pesticide Use – Inputs<sup>1</sup></b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Structural Pest Control Businesses	2,970	3,064	3,068
Structural Pest Control Individual Licensees <sup>2</sup>	19,400	19,375	19,207
<b>Structural Pesticide – Outputs</b>			
Number of Structural Applications	12,593,793	14,840,558	18,025,011
<b>Structural Pesticide Use – Outcomes</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Pounds of sulfuryl fluoride (SF) Used in Structural Fumigations	2,571,581	2,120,584	2,354,509
Pounds of Pesticide Active Ingredients Used in/around Structures (minus SF)	1,162,438	1,079,534	1,269,163

<sup>1</sup> Business and Individual License values reflect June 30<sup>th</sup> statistics in the SPCB databases of that year.

<sup>2</sup> Licensees identify infestations or infections, make inspections, apply fumigants, and pesticides in/around structures such as dwellings, office buildings, restaurants, warehouses, and food processing plants.

The following chart displays detailed compliance and non-compliance (including number of violations) data from DPR’s inspection tracking database on the number of inspections conducted by the CACs in 2010, 2011 and 2012 in the *structural* use setting. Each inspection type not only evaluates a particular category of mandated human health and environmental requirements, but also unique sections of laws and regulations pertaining to that specific inspection type.

<b>Structural Inspection Type</b>	<b>CAC Inspections Conducted</b>			<b>Compliance Elements Inspected</b>			
	<b>Total Number</b>	<b>With Violations</b>	<b>100% Compliance</b>	<b>Compliant</b>	<b>Non-Compliant</b>	<b>Total Elements</b>	<b>Rate</b>
<b>Fumigation</b>							
2010	1,830	95	94.8%	53,274	152	53,426	99.7%
2011	2,001	115	94.3%	52,439	178	52,617	99.7%
2012	2,405	129	94.6%	62,200	179	62,379	99.7%
<b>Non-Fumigation</b>							
2010	1,197	161	86.5%	21,326	286	21,612	98.7%
2011	1,257	162	87.1%	21,895	266	22,161	98.8%
2012	1,095	109	90.0%	19,118	184	19,302	99.0%
<b>Records</b>							
2010	1,264	154	87.8%	12,533	255	12,788	98.0%
2011	1,396	217	84.5%	13,560	371	13,931	97.3%
2012	1,252	166	86.7%	12,416	259	12,675	98.0%
<b>Total Structural</b>							
2010	4,291	410	90.4%	87,133	693	87,826	99.2%
2011	4,654	494	89.4%	87,843	815	88,709	99.1%
2012	4,752	404	91.5%	93,480	622	94,356	99.3%

## 6) U.S. EPA Cooperative Agreement

California received delegated authority from U.S. EPA to carry out and enforce the state's pesticide regulatory program in 1975. An annual cooperative agreement between the two agencies delegates enforcement authority to California under the agreement. DPR identifies state priorities and reviews its program to assure its activities incorporate U.S. EPA's national priorities.

A second cooperative agreement between U.S. EPA, DPR and the CACs ensures a unified and coordinated program of pesticide episode reporting, investigations and enforcement action in the state. It sets criteria that define a priority incident and, for episodes that meet that definition, it establishes specific reporting requirements to DPR and U.S. EPA and sets timeframes for the submission of episode investigation reports. The defining criteria are based on the effect to human health and environment, the significance of any economic loss and other specific circumstances. The agreement establishes that an enforcement action on a priority incident by U.S. EPA or DPR/CACs does not preclude action by the other party. It provides that required reports will be used to evaluate the investigations and actions to assure compliance by the state obligations under its federally delegated authority.

### DPR-U.S. EPA Performance Partnership Grant Work Plan

DPR develops its annual work plan in consultation with the U.S. EPA based on the annual guidance letter issued by U.S. EPA.

The work plan provides an overview of each key area of the state program and related branch activities, outlines the conduct of the activities and lists specific deliverables DPR will provide to Region 9 on a quarterly, mid-year and end-of-year basis. DPR provides to U.S. EPA a mid-year and end-of-year report listing work plan accomplishments and deliverables. Included in the reports are the types of training DPR conducted and participated in, recently passed and pending regulations, DPR policy interpretations issued to CACs, the number of anticipated and agreed-upon inspections in all categories and a summary of all priority investigations and DPR's enforcement response.

DPR and U.S. EPA Region 9 staff meet at least semi-annually to review progress and to refine program goals. The figures below represent work outputs generated under the annual U.S. EPA cooperative agreement.

<b>DPR Federal Activities per U.S. EPA Cooperative Agreement - Outputs</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Total Inspections Conducted under the USEPA Cooperative Agreement	418	411	403
Producer Establishment Inspections	58	51	41
Product Compliance Inspections	130	130	130
County Oversight Inspections	230	230	232
Samples Collected to Determine Compliance - Label Ingredient Statement	29	40	35
Cases Forwarded to USEPA for Action	46	38	49

## 7) Compliance Assistance and Training

DPR conducts a variety of outreach activities to educate the counties, industry and the public about DPR's laws and regulations to increase compliance.

### Promoting Safer, Less-Toxic Pest Management Strategies

DPR's Pest Management Alliance Grants Program has been one of its most successful initiatives, developing partnerships with the private sector that promote safer, less toxic strategies with economic benefits as a bonus. Many Alliances have become self-sustaining statewide efforts that permanently change an industry's pest management strategy for the better. Budget cutbacks forced DPR to suspend the grants in 2002, but with Administration support, the program was revived in 2007. These projects are closely tied to DPR's regulatory priorities for the protection of human health, air and water in agricultural and urban environments.

In 2012, DPR funded an additional two projects, bringing total funding for its Alliance grants program to almost \$2.7 million since 2007.

### 2009 funding with project completion dates of May 2012

- *Maintenance Gardeners* – Collaborates with community partners to train maintenance gardeners on IPM principles with the goal of improving pest management decision-making and reducing pesticide misuse in urban landscapes (“Integrated Pest Management for Maintenance Gardeners,” San Luis Obispo County Agricultural Commissioner's Office, Tamara Kleeman, \$61,000).
- *Urban Housing* – Seeks to reduce misuse of pesticides in primarily low-income housing in urban areas (“Healthy Homes Alliance,” Physicians for Social Responsibility, Martha Dina Arguello and Katherine Attar, \$200,000).
- *Bedding Plants* – Addresses pest management in the bedding plant/container color industry, where producers grow many varieties, have short production schedules and regard aesthetic quality as essential (“Integrated Pest Management in Bedding and Container Color Plants,” UC Davis, Michael Parrella, \$139,000).

### 2010 funding with project completion dates of May 2013

- *Pesticide-Free Gardens* – Will create a model pesticide-free urban park where demonstration gardens convey IPM principles through interpretive signs and self-guided tours, brochures, pod casts and cell phone apps (“Pesticide-Free Park and Demonstration Gardens at Guadalupe River Park,” City of San Jose, James Downing and Sanhita Ghosal, \$200,000).
- *IPM Advocates* – Will train a team of representatives to educate home improvement store and garden center employees and their customers about alternative methods to control ants, aphids, snails, weeds and other pests (“IPM Advocates for Retail Stores,” Bay Area Stormwater Management Agencies Association, Geoff Brosseau, \$170,000).

### 2011 funding with project completion dates of May 2014

- *Got Ants?* – Aims to protect surface water quality through a community-based social marketing campaign to change residents' behavior to environmentally friendly ways to control ants in urban neighborhoods. (“Got Ants? Outreach to Reduce Risks from Pyrethroids to the Environment & Water Quality,” Association of Bay Area Governments, San Francisco Estuary Partnership Division,

Athena Honore, \$200,000).

- *Green Cleaning* – Will develop a toolkit and hold workshops for early care and education providers on the health risks of commonly used cleaners with antimicrobial pesticides. Information will also be provided on how to select and properly use reduced-risk products and nonchemical options. (“Green Cleaning, Sanitizing & Disinfecting: A Toolkit for Early Care & Education,” UC San Francisco, Victoria Leonard, \$199,966).

2012 funding with project completion dates of May 2015

- *Spanish-Speaking Landscapers* – Will train Spanish-speaking landscapers who maintain parks, golf courses, schools, and large private plantings on IPM practices, stressing pest prevention and safe pesticide application practices. ([“Expanding IPM Education to Southern California Spanish-Speaking Landscapers,”](#) UC Cooperative Extension, Janet Hartin, \$124,611).
- *IPM at Child Day Care Centers* – 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. [IPM Training Resources for California Pest Management Professionals Working in Early Care & Education Facilities,](#) UC Berkeley School of Public Health, Asa Bradman, \$200,481).

Information about the grants and the Pest Management Alliance Program is available on DPR’s website at <http://www.cdpr.ca.gov/dprgrants.htm>.

### Protecting Children’s Health

The Healthy Schools Act (HSA) put into code DPR’s voluntary School Integrated Pest Management (IPM) program and added additional requirements for schools and child care facilities. HSA requirements for schools and child care facilities include annual notification of pesticide applications, individual notification registry, posting warning signs, and keeping records available at the site for four years. The HSA also includes pesticide use reporting by licensed pest control businesses that apply pesticides at schools or child care facilities. DPR is committed to facilitating the adoption of IPM policies and programs and assisting with the implementation of HSA requirements in schools and child care facilities throughout California.

DPR’s School IPM and Child Care IPM programs accomplishments during 2012 include the following outreach and education efforts:

- Conducted four regional full-day school IPM training workshops and one half-day turfgrass-focused IPM workshop for school district IPM coordinators.
- Conducted training for school district personnel about the HSA requirements and school IPM practices at the California Association of School Board Officials (CASBO) seminar in Santa Clara on February 3, 2012.
- Presented information about HSA requirements and DPR’s School IPM program at the Green Conference in San Jose on February 4, 2012.
- Presented information about HSA requirements and DPR’s School IPM program at the Association of Applied IPM Ecologists (AAIE) in Oxnard on February 6, 2012.

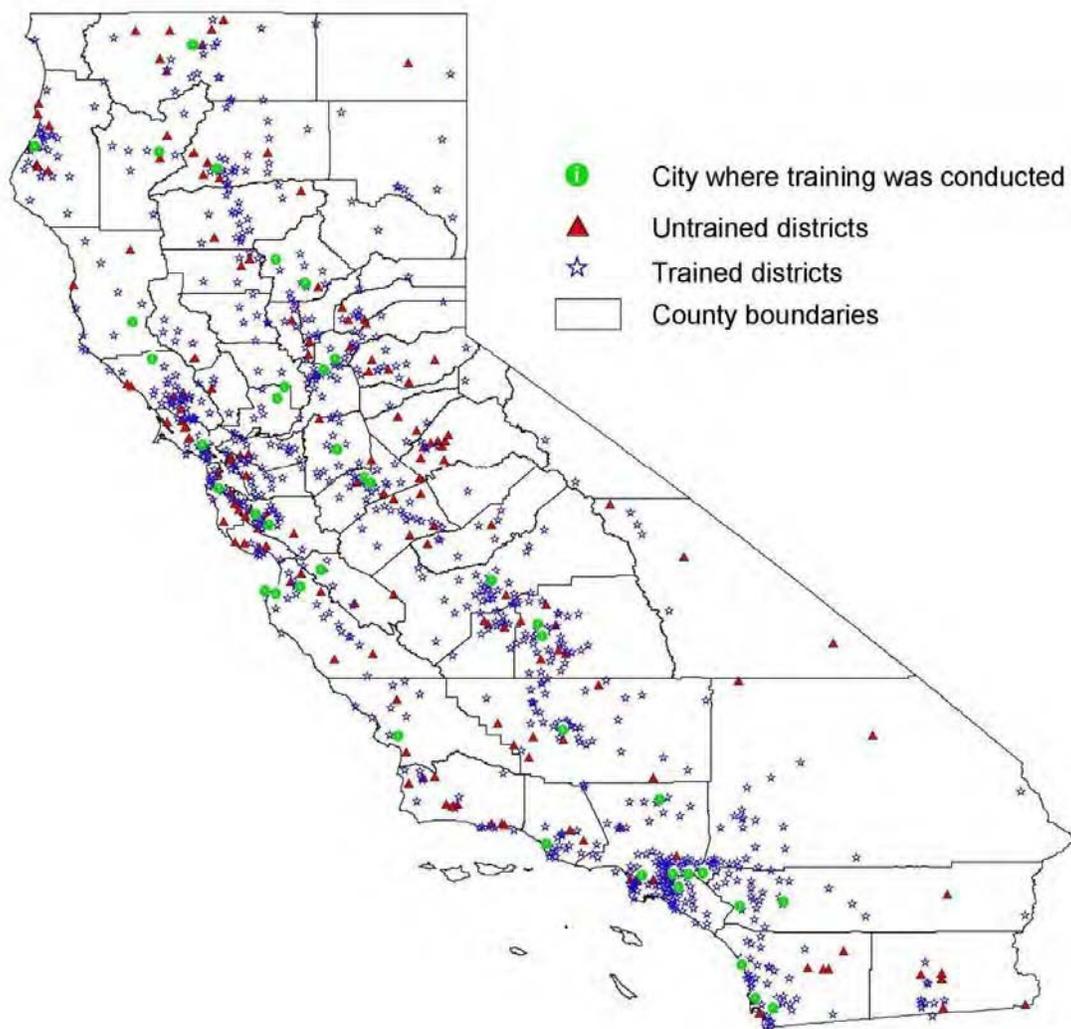
- Published a peer-reviewed technical article featuring results from the 2007 school IPM survey in April 2012 in the Journal of Environmental Health, vol 74:8 pp.18-22. The article is titled: *A Survey of California Public School Districts: Ant and Weed Management Practices and a Review of Their Use of IPM*. [http://www.cdpr.ca.gov/docs/pestmgmt/pubs/ant\\_and\\_weed\\_mngmt\\_practcs.pdf](http://www.cdpr.ca.gov/docs/pestmgmt/pubs/ant_and_weed_mngmt_practcs.pdf)
- Finalized the 2010-11 School IPM Survey report in May 2012. [http://apps.cdpr.ca.gov/schoolipm/overview/sipm\\_survey2010.pdf](http://apps.cdpr.ca.gov/schoolipm/overview/sipm_survey2010.pdf)
- Conducted training in child care IPM, the HSA and environmental toxins to child care providers at the California Head Start Health Institute in San Diego on May 8, 2012.
- Conducted a child care IPM workshop at the Community Child Care Council of Alameda County on May 21, 2012.
- Conducted training in the HSA requirements and school IPM practices at the Pesticide Applicators Professional Association (PAPA) seminars on February 9 in Stockton, May 15 in Carmichael, July 18 in San Jose, July 24 in Modesto, and November 15, 2012 in Visalia.
- Conducted training in child care IPM, the HSA and environmental toxins at the Stanislaus County Resource and Referral Agency office on February 29. The same training was presented there in Spanish on June 19, 2012.
- Conducted training in child care IPM, the HSA and environmental toxins to child care providers at the Professional Association of Childhood Educators in Oakland on October 20, 2012.
- Conducted training in health and safety, including the HSA and IPM to child care providers at the Resource & Referral Network Annual Conference in Sacramento on October 26, 2012.
- Published a technical article in The Journal for Pesticide Safety Education entitled, *A Survey of Pest Problems and Pesticide Use in California Child Care Centers, Including Healthy Schools Act Compliance*. The article summarizes the results of the 2008 child care pest management and pesticide use survey. <http://maxpond.ext.vt.edu/ojs2/index.php/jpse/article/view/60>
- Posted the *IPM Toolkit for Child Care Providers* to the DPR Child Care IPM web site. In collaboration with the University of California, San Francisco, School of Nursing, DPR developed the **kit** which provides practical information about using IPM to prevent and manage pest problems in child care facilities. <http://apps.cdpr.ca.gov/schoolipm/childcare/toolkit/main.cfm>
- Conducted training for individual school districts about the HSA requirements and school IPM practices at Livermore Valley Unified School District on August 20, William S. Hart School District on October 2, and Woodland School District on November 29, 2012.
- Entered 2011 and 2012 school and child care pesticide use data into reporting database.
- Participated in the California Department of Education's "Green Ribbon Schools" award program and application review process.

- Participated in the development of the Green Cleaning, Sanitizing, and Disinfecting Toolkit for Early Care and Education, in collaboration with University California San Francisco School of Nursing.
- Developed, printed and distributed the 2012-2013 school IPM record-keeping calendars to school districts and childcare centers.
- Performed extensive outreach to untrained school districts (those districts that have never attended a DPR sponsored school IPM training workshop).
- Distributed a reminders brochure for school district staff with information about the HSA requirements and IPM. A copy was mailed to each school district along with DPR's annual school IPM training workshops schedule.

The 2012 DPR IPM workshops outreach involved 799 California public school districts. Since the 2000 passage of the Healthy Schools Act, personnel from 83 percent of California's public school districts have been trained, representing over 5 million students or 98% of the student population.

These workshops enable school district IMP coordinators to go back into their districts and train school maintenance and operations staff, including groundkeepers and custodians, on reduced-risk strategies to control cockroaches, ants, rodents, weeds and other pests.

### California School IPM Training 2012



This map graphically represents the total number of school districts that have received training on IPM practices and requirements of the HSA through 2012.

## Protecting Workers' Health

The Worker Health and Safety Branch (WHS) provides training and outreach to a number of different audiences, including growers, pesticide applicators, pest advisors, County Agricultural Commissioner (CAC) staff, industry, and residents of rural communities. The Branch's Industrial Hygiene staff provides consultation to industry, NIOSH, and U.S. EPA upon request.

During 2012, WHS staff:

- Worked cooperatively with staff from Enforcement and Environmental Monitoring Staff to provide CAC staff with interim suggested permit conditions for soil fumigant uses.
- Met with CAC staff to discuss soil fumigation issues and to assist them in developing permit conditions when needed. Worked with CAC staff from individual counties to develop alternate application restrictions when unusual situations exist.
- Responded to CAC questions dealing with situations that require industrial hygiene interpretation of personal protective equipment (PPE).
- Made presentations to industry groups such as Pesticide Applicators Professional Association and California Association of Pest Control Advisors on topics such as soil fumigant mitigation management requirements in California, use of PPE, respiratory protection requirements, closed systems and interpretation of labeling and material safety data sheets.
- In cooperation with industry stake holders developed a plan to mitigate worker exposure to methyl bromide in cold storage facilities occurring as a result of required fumigations of imported commodities for pest exclusion.
- Participated in the National Institute of Occupational Safety and Health's "Personal Protective Equipment Selection, Use and Expectations: Stakeholder Meeting and Workshop".
- Distributed pesticide safety literature and other related information at over 60 community events (such as Promotores [community health care liaisons] workgroups, migrant farm worker camps, health fairs and conferences, county fairs and other festivals) to promote pesticide safety for farm workers and their families.
- Participated in three fieldworker training events in collaboration with the Fresno, San Diego, and Solano County Agricultural Commissioners' offices. These workshops included training on pesticide safety, employer/employee responsibility and whom to contact in case of a pesticide exposure.
- Along with the Enforcement Branch and U.S. EPA, conducted "Breaking Barriers" training sessions to help CAC inspectors learn to interact positively with immigrant workers. These sessions included basic language instruction as well as introductions to Hispanic culture and social behavior.
- Participated in three, U.S. EPA Region IX sponsored, soil fumigant awareness trainings for Promotores in Tulare, Santa Barbara, and Monterey Counties.

## Outreach and Training Provided by DPR's Branches

Throughout 2012, Enforcement Branch staff arranged and conducted 33 training sessions for 590 CAC staff in the following areas.

- Structural pest control enforcement training.
- U.S. EPA Phase 2 Soil Fumigant Labeling
- Breaking Barriers – to assist non Spanish-speaking inspectors who interview non English-speaking field workers and applicators.
- Investigative techniques – small group training on regional basis.
- The Advocate’s Challenge workshops

### **Structural Regulatory Training**

Statewide, CAC inspectors carry out more than 4,000 inspections per year of pesticide applications to structures (houses, commercial buildings, etc.). These inspections require in-depth knowledge of diverse pesticide-application methods, including structural fumigation and the regulatory requirements that apply to each method. In 2012, DPR presented one multi-day training course for CAC inspectors in DPR’s ongoing efforts to prepare inspectors. The course included eight separate hands-on demonstrations of application methods or frequently encountered scenarios, giving participants the opportunity to practice a wide range of inspections. The training also included classroom presentations, with separate tracks for beginner and intermediate/advanced inspectors.

### **U.S. EPA Phase 2 Soil Fumigant Label Change Training**

Soil fumigant labels are being revised nationwide to add safety measures for agricultural workers and bystanders. In 2010, the U.S. Environmental Protection Agency (U.S. EPA) required registrants to make certain label revisions to their soil fumigant products (phase 1). In 2012, U.S. EPA required additional label revisions (Phase 2) on product labels released for sale after December 1, 2012. The soil fumigant label revisions affect products containing methyl bromide, metam sodium, metam potassium, chloropicrin (including combination with 1,3-D), and dazomet.

DPR conducted six training sessions for CAC staff throughout the state on the implementation of the Phase 2 Soil Fumigant labeling changes. The training consisted of an overview of the Phase 2 label changes. The training also included group exercises evaluating restricted materials permit applications, as well as conducting field fumigation inspections as they pertain to the new Phase 2 products.

### **General Outreach**

During 2012, DPR staff made presentations to update stakeholders on pesticide laws, regulations and policy covering a variety of subject areas such as endangered species, licensing requirements, VOCs, respiratory protection, worker protection, pesticide use reporting, registration and labeling, rice herbicides, pest management practices, drift prevention, structural pest control and enforcement response regulations.

DPR maintains a “compliance assistance” website aimed at providing up-do-date information for employees, employers, and the public who are required to comply with pesticide laws and regulations. The site provides a wide range of information on worker safety; licensing; pesticides subject to special conditions (i.e., minimal exposure, dormant spray, field fumigant and ground water restrictions; engineering controls; restricted entry intervals; and personal protective equipment); state and national pesticide databases; and state and national pesticide-related resource centers. DPR’s main compliance

assistance website pages receive approximately 10,000 hits annually. This does not include the number of times specific documents were viewed or downloaded. The website is available at <http://www.cdpr.ca.gov/docs/dept/quicklinks/compliance.htm>.

In addition, the Enforcement Branch headquarters received and responded to thirty-one requests for pesticide labeling interpretations from both internal and external stakeholders including county agricultural commissioners, pesticide registrants and other State agencies such as CDFA. Six of these interpretations resulted in Enforcement Branch Letters to County Agricultural Commissioners.

## **Enforcement Program Metrics**

### Data Characteristics

The DPR develops a calendar-year summary of annual statewide CAC pesticide enforcement program statistics. This annual California Enforcement Statistical Profile consolidates CAC data from several DPR database sources. In addition to the statewide ESP, individual county profiles are available at [http://www.cdpr.ca.gov/docs/county/enf\\_stat\\_profile.htm](http://www.cdpr.ca.gov/docs/county/enf_stat_profile.htm).

The statistical profiles were developed to look at available data in a different, more comprehensive format. The CACs and DPR may use this information to develop county enforcement work plans, conduct effectiveness evaluations and to:

- Identify trends and program changes.
- Identify CAC staff training needs.
- Identify industry outreach needs.
- Improve inspection compliance.
- Develop inspection targeting programs.
- Compare county data to statewide, regional and/or other counties with similar characteristics.

### Trends in Key Enforcement Indicators Over Time

DPR has been collecting inspection compliance data from the counties since 2003/04. As with any new system, the data quality in the first few years was variable. Data quality has improved over the years but the system lacks sophisticated validations and must rely on data entry instructions and ongoing manual reviews to ensure data quality. DPR will continue to compile basic statistics on the number of violations, violation types and categories and overall compliance rates.

DPR and the CACs use the Enforcement Response Regulations (Title 3, California Code of Regulations § 6128, §6130 and §6131) to determine the appropriate type of enforcement response in a given case, which involves a two-step process:

1. Classify the type of violation.
2. Using that classification, determine the appropriate action by following the progressive enforcement required by the regulations.

The data captured in DPR's databases gives us the ability to see the impact or gauge the changes in the enforcement and compliance rates. DPR captures data on enforcement actions once the action is closed and all appeals are exhausted. It is important to note the county must take an enforcement action for agricultural violations within the two-year statute of limitations. For structural violations, the statute of

limitations is one year. In addition, the respondent is entitled to several levels of appeal that may prolong the length of time before the closure of any single case.

Program Inputs

DPR’s inspection tracking database was implemented in 2003 and is the vehicle used to evaluate compliance by industry with state, federal and local pesticide laws, regulations and permit conditions. Since 2003, new regulations governing volatile organic compounds (VOCs), respiratory protection, structural pest control operations and protections of ground water have gone into effect. DPR began capturing compliance data on the new requirements in January 2010.

Program Outputs

*County Agricultural Commissioners Pesticide Use Enforcement Inspections / State Oversight*  
CACs conduct on-site application inspections, conduct worker safety inspections, and inspect the operations and records of growers, pest control applicators, pest control dealers and agricultural pest control advisers. DPR oversees CACs’ pesticide inspection programs in part by performing side-by-side inspections with the county to evaluate their performance and interpretation of criteria in compliance.

The reduction in number of CAC inspections from 2011 to 2012 was a result of furloughs and budget cuts that affected both state and county programs.

<b>Summary of DPR &amp; CAC Enforcement Program - Outputs</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Inspections			
DPR Oversight Inspections (USEPA & State)	375	416	424
CAC Inspections	17104	18103	16641
Total Inspections	17479	18519	17065

Program Outcomes

*California Enforcement Statistical Profiles*

DPR develops annual calendar-year summaries of statewide CAC pesticide enforcement program statistics. The California Enforcement Statistical Profile consolidates CAC data from several DPR database sources. DPR also produces and publishes individual county enforcement statistical profiles.

The summaries include information showing DPR and CDFA funding of the CACs. The profiles do not include county general funds allocated in each county to support the local program. The enforcement statistical profiles are available on DPR’s website at: [www.cdpr.ca.gov/docs/county/enf\\_stat\\_profile.htm](http://www.cdpr.ca.gov/docs/county/enf_stat_profile.htm) and consist of the following:

- Annual Statewide Pesticide Enforcement Program Statistics: General statistics about the CAC program drawn from the PRAMR and PUR databases, and funding disbursed by CDFA via the unclaimed gas tax distribution and by DPR via the mill assessment.

This is a three-year side-by-side comparison of several statistics regarding restricted materials permits (such as number of: permits issued, permits denied, multi-year permits, sites, and notices of intent reviewed, assessed and denied), pounds of pesticides used, number of applications, number of

inspections and CDFA and DPR funding. This information can be used to identify significant year-to-year reductions or increases that may impact the county's overall pesticide enforcement program.

- **Statewide Workload by Hours and Distribution by Percent Time:** Pie and line charts showing workload distribution by hours and percentages of time dedicated to various categories of the CAC pesticide enforcement program (PRAMR).

The line chart shows a three-year comparison of CAC time spent (Licensed Work Hours) in seven categories of pesticide use enforcement. The pie chart presents the percentage of time dedicated to those activities over the three-year period work. This information is used to identify areas where excessive or minimal time is dedicated to specific work categories that may not be appropriate for an individual program. It can also be used to identify significant year-to-year reductions or increases that may impact their overall pesticide enforcement program.

- **Statewide Inspection Compliance:** Compliance information from the various types of inspections conducted by the CACs and a summary of the number of compliance and enforcement actions taken (Inspection Tracking Database).

These tables list by agricultural and structural settings the numbers of inspections and compliance rates for each inspection type the CACs conduct each year. It also shows the number of criteria out of compliance per inspection, the percentage of inspections with 100 percent compliance and the number of inspections that found one or more violations. The last number on the table can be compared with the number of compliance and enforcement actions taken during the same period, however, the numbers do not correlate directly. Not all compliance and enforcement actions are closed during the fiscal year in which it is initiated. Additionally, some actions may result from the discovery of violations by means other than inspections, such as investigations.

This information can be used to identify areas of particularly low compliance where industry outreach or changes in targeting strategies may be used to improve compliance. Areas of particularly high compliance where DPR's field experience indicates that the compliance rate is not as high may identify a need to review the CAC's inspections to determine if additional training is appropriate for CAC staff.

As noted elsewhere, DPR is working toward the development of a fully integrated database system. One of the goals is to link and track violations with the immediate corrective action (compliance action) taken in the field at the time of the inspection.

- **Most Common Violations-Statewide:** These tables list the most frequently cited code section violations by agricultural and structural settings on CAC inspections (Inspection Tracking).

These also are used to indicate areas where industry outreach and training is most needed.

### *Enforcement Actions*

DPR and CACs take administrative enforcement actions for different types of violations:

- DPR can revoke or suspend the license of companies and individuals who do pest control work, sell pesticides or advise on pest control in California.

- DPR can levy administrative penalties on companies and individuals who sell unregistered or misbranded pesticide products, fail to pay required fees on pesticide sales, or pack, ship and sell produce with illegal pesticide residue.
- The CAC is the agency that enforces pesticide use laws and regulations levies administrative civil penalties for violations. The CAC has the authority to revoke or suspend the registration of companies and individuals who register to do business in the county.

DPR can also refer enforcement actions to the California Attorney General Office for any violation of pesticide laws. DPR and CACs can also refer pesticide use violations for criminal prosecution to the local district attorney, city attorney or circuit prosecutor. The following table is a summary of DPR and CAC Enforcement Program outcomes.

<b>Summary of CAC Enforcement Program – Outcomes</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
CAC Enforcement Actions			
Number of Closed Cases	798	942	955
Number of Violations in Closed Cases	1019	1107	904
Penalties Assessed	\$361,030	\$403,865	\$329,890
Number of Cases Referred to District Attorney	0	3	2
<b>Summary of DPR Enforcement Program – Outcomes</b>			
DPR Penalties for Unregistered & Misbranded Products			
Number of Cases	118	123	123
Number of Unregistered Products in Case Settlements	835	469	345
Penalties Collected	\$2,707,880	\$2,855,530	\$3,868,738
DPR Penalties for Pesticide Residue/Use Violations			
Number of Cases	3	1	2
Settlement Penalties Collected	\$120,000	\$10,000	\$105,000

DPR makes every effort to provide training and education to help the regulated industry comply with laws and regulations governing food-safety, pesticide use and sales. For recurring or egregious violations, DPR will continue to take enforcement actions when appropriate.

During routine inspection and auditing of pesticide sales into California, Gar Tootelian, Inc. was charged with the unlawful sale of a pesticide product in California for a use not stated on the product’s registered label and in conflict with the pesticide label. The business paid DPR a civil penalty of \$60,000.00 in March, 2012.

Britz-Simplot Grower Solutions, LLC was charged with the unlawful sale of a pesticide product in California for a use not stated on the product’s registered label and when any condition of use shown in the labeling could not be complied with. The business paid DPR a civil penalty of \$45,000.00 in March, 2012.

The following table is a statewide summary of surveillance and compliance activities.

Source: Calendar Year Queries of the Pesticide Regulatory Activities Monthly Report Database (08/13)  
**Summary of County Statewide Workload Statistics in 2010, 2011 and 2012**

<b>Preliminary CAC Reported Workload Statistics - Inputs</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
CAC Licensed Staff Hours	459,416	490,255	477,498
CAC Support Staff Hours	132,107	131,922	133,280
<b>Preliminary CAC Reported Workload Statistics – Outputs</b>			
<b><i>Restricted Materials Permitting</i></b>			
Restricted Material Permits Issued/Amended	39,254	44,386	40,382
Restricted Material Permits Denied	334	180	134
Notices of Intent to Apply a Restricted Material Reviewed	142,071	133,487	123,794
Restricted Material Notices of Intents Denied	1,228	1,254	826
Pre-Site Application Evaluations/Inspections	7,997	8,024	7,626
<b><i>Compliance Monitoring</i></b>			
Inspections*			
Agricultural Use	6,834	7,291	6,523
Field Worker Safety	959	1,010	956
Commodity Fumigation	429	470	451
Field Fumigation	655	874	870
Records Inspections	5,200	5,212	4,719
Structural Fumigation	1,830	2,001	2,405
Structural Non-Fumigation	1,197	1,257	1,095
Investigations	1,475	1,524	1,622
<b><i>Enforcement Response</i></b>			
CAC Compliance Actions	3,430	3,624	3,172
CAC Enforcement Actions			
Number of Enforcement Cases Closed	798	942	963
Amount of Civil Penalties Assessed	\$362,080	\$403,865	\$342,490
Number of Cases Referred to District Attorney	0	3	2
<b><i>Compliance Assistance</i></b>			
Training & Outreach Sessions	1,618	1,033	1,637
Number of Persons Attending	37,280	38,059	45,965
<b><i>County Registrations &amp; Certification</i></b>			
Operator Ids for Non-Restricted Use Issued/Amended	14,172	14,170	15,026
Private Applicator Certificates Issued	6,609	5,847	6,118
Pest Control Business/Advisers/Pilots Registered	12,163	12,649	12,442
Farm Labor Contractor Registered	2,849	3,473	3,416
Structural Pest Control Business Registered	6,903	7,004	8,026
<b>Preliminary CAC Reported Workload Statistics - Outcomes</b>			
Total Inspections Conducted	17,104	18,115	17,019
Inspections with 1 or More Violations	2,133	2,310	1,765
Inspections with 100% Compliance Rate	87.5%	87.2%	89.6%
Total Number of Criteria Evaluated	299,408	312,385	298,019
Total Number of Criteria in Compliance	294,118	306,918	293,800
Compliance Rate for Criteria Inspected	98%	98%	99%

\*County inspection data and compliance rates are from DPR's Inspection Tracking Database. Counties conduct additional inspections (follow-ups, partials, unattended tarp/aeration, etc.) that are not currently

captured in DPR’s database; thus compliance rates and specific inspection elements cannot be evaluated for these inspections.

As noted earlier, DPR tracks its workload (resources, outputs and outcomes) on a fiscal year, not calendar year basis. DPR fiscal year program metrics are available on its website at <http://www.cdpr.ca.gov/docs/dept/planning/performance/index.htm>.

County enforcement statistics, work plans and evaluations are posted on DPR’s website at: [www.cdpr.ca.gov/docs/county/enf\\_stat\\_profile.htm](http://www.cdpr.ca.gov/docs/county/enf_stat_profile.htm).

Environmental and Health Outcomes

*Environmental Indicators (EPIC) to Report on Key Environmental Trends*

The following environmental protection indicators are highlighted in this report since DPR collects, analyzes and publishes detailed annual reports on these program areas. The annual reports, along with trends analyses, are quite comprehensive. DPR publishes these reports and makes them available on its website.

*Monitoring Residues in Food*

If pesticides are properly used according to label instructions, there should be no illegal residues on harvested produce. Tolerance levels for pesticide residues on produce are intended to protect against adverse impacts on human health. The presence of illegal residues may indicate improper or illegal pesticide use. Illegal pesticide use can also adversely impact the health of wildlife and sensitive ecosystems.

DPR’s state-mandated California Pesticide Residue Monitoring Program is the most extensive state monitoring program in the United States. DPR takes and analyzes about 3,000 samples of fresh produce annually. DPR samples individual lots of domestic and imported produce and analyzes them for pesticide residues to enforce the tolerances set by the USEPA. Samples are collected throughout the channels of trade, including packing sites, wholesale and retail markets and farmers markets. Samples are taken to a CDFA laboratory where all are tested with multi-residue screens capable of detecting more than 200 pesticides and breakdown products. In addition, selected samples receive specific analyses for non-screenable pesticides of enforcement concern.

California Pesticide Residue Monitoring Program	2007	2008	2009	2010	2011	2012
Total number of samples taken	3,562	3,483	3,429	3,021	2,707	3501
Approximate Number of commodities sampled	100	140	180	170	160	170
Sample origins						
Domestic samples	60.8%	55.4%	57.4%	59.1%	60.3%	67.8%
Imported samples	38.7%	43.3%	41.6%	40.1%	39.5%	31.9%
Undetermined origin samples	0.5%	1.3%	1.0%	0.8%	0.2%	0.3%
Sample analyses results						
No pesticide residues detected	62.6%	70.2%	73.4%	64.8%	60.3%	57.5%
Residues within legal tolerance levels	36.2%	28.7%	24.2%	32.8%	35.8%	38.9%
Samples with illegal residues	1.2%	1.1%	2.4%	2.4%	3.4%	3.6%

In 2011, DPR added a newer analytical technique called LCMS (liquid chromatography/mass spectroscopy) to analyze samples. With LC/MS and GC/MS, the Sacramento laboratory can detect residues of pesticides recently registered by U.S. EPA and California. These “newer” pesticides have chemistries difficult to detect with the “old” multiresidue screens. In addition, the Sacramento laboratory can now detect lower residue concentrations of older pesticides (some still registered for use and others no longer registered) than they could with the “old” screens. With LC/MS and GC/MS, the Sacramento laboratory in 2012 was able to detect more than 270 different pesticide residues, including pesticide breakdown products. The “new” LC/MS and GC/MS screens also increased the proportion of DPR samples on which illegal pesticide residues were detected. In 2012, 3.6% of samples contained illegal residues compared to 3.4% in 2011. In 2013, the Anaheim CDFA laboratory will begin analyzing all fruit and vegetable samples with LC/MS and the OP and OC multiresidue screens. Approximately 96.8 percent of the produce samples analyzed by DPR for pesticide residues in 2010, 2011 and 2012 had either no pesticide residues detected or residues that are in compliance within legal tolerances. The remaining 3.2 percent had illegal residues and DPR removed the produce from the marketplace to prevent consumption by the public. Each time an illegal pesticide residue is detected, DPR toxicologists assess the dietary risk of that residue to determine if it may pose a significant risk to public health. In 2012, most of the illegal residues were less than a part per million and DPR toxicologists determined that none of them posed a potential significant risk to public health. In those rare cases in which DPR toxicologists find that a pesticide residue potentially poses a significant health risk, the California Department of Public Health is notified.

California Pesticide Residue Monitoring Program annual reports summarizing the results from samples collected during the calendar year, along with the detailed data, are available from DPR’s website at [www.cdpr.ca.gov/docs/enforce/residue/rsmonmnu.htm](http://www.cdpr.ca.gov/docs/enforce/residue/rsmonmnu.htm).

In addition, annual reports of the data analyzed from samples DPR collects, as well as data collected by other states, under the USDA’s PDP are available from USDA’s Agricultural Marketing Services website at [www.ams.usda.gov/AMSV1.0](http://www.ams.usda.gov/AMSV1.0).

### *Tracking Pesticide Illness*

Pesticides have been associated with adverse effects on human health. Given the nature of their contact with pesticides, agricultural and pest control workers are most likely to face exposure to pesticides. The public may be exposed to pesticides in water, soil and air due to misuse or drift from sprayed areas. Consumers may face exposure from home-use pesticides, or to pesticide residues in food. Unacceptable risks may be avoided when pesticides are used properly and when pesticide laws and regulations are enforced vigorously and consistently.

DPR’s Pesticide Illness Surveillance Program (PISP) maintains a database of pesticide-related illnesses and injuries. Important sources of case identification include workers’ compensation documents, the California Poison Control System and physician reports to local health officers. The local CAC investigates circumstances of exposure. Medical records and investigative findings are then evaluated by DPR scientists and entered into a large relational database. The information collected helps validate the effectiveness of exposure control measures and identify areas where improvements are needed. Analyses of trends in illness and injury produced by a particular pesticide or activity also provide direction for the Exposure Monitoring and Industrial Hygiene Program, and the Human Health Mitigation Program.

The following is a summary of case reports received by DPR’s Pesticide Illness Surveillance Program, 2008-2012 in which human health effects were evaluated after investigation, as “definitely, probably, or

possibly related”<sup>a</sup> to pesticide exposure. The data are reported by exposure circumstances (agricultural pesticide use vs. any other exposure situation) and by type of pesticide (antimicrobials and all other pesticides).

Year	Agricultural Pesticide Use Exposure <sup>b</sup>		Non-Agricultural Pesticide Use Exposure		Total Incidents <sup>d</sup>
	Pesticides Other Than Antimicrobials	Antimicrobial Pesticides	Pesticides Other Than Antimicrobials	Antimicrobial Pesticides	
2012 <sup>c</sup>	39	0	98	90	228
2011 <sup>c</sup>	130	10	254	295	707
2010	223	8	286	286	811
2009	231	21	279	375	918
2008	275	36	298	284	894

<sup>a</sup> Definite relationship indicates that both physical and medical evidence document exposure and consequent health effects.

Probable relationship indicates that limited or circumstantial evidence supports a relationship to pesticide exposure.

Possible relationship indicates that health effects correspond generally to the reported exposure, but evidence is not available to support a relationship.

<sup>b</sup> Designation as “Agricultural” indicates exposure to a pesticide intended to contribute to production of an agricultural commodity.

<sup>c</sup> Because of delays in case processing, figures for 2011 and 2012 are not yet final and can be expected to increase by several hundreds.

<sup>d</sup> Total incidents include 40 cases over the 5 years in which agricultural circumstances remained unknown.

Annual reports through calendar year 2010 providing detailed information can be obtained from DPR’s website at [www.cdpr.ca.gov/docs/whs/pisp.htm](http://www.cdpr.ca.gov/docs/whs/pisp.htm).

### *Pesticide Use Trends*

Pesticides can increase the quality and production of agriculture and enhance public sanitation (water, food preparation, rodent control, bed bugs, etc.). However, these benefits are not without risks to human health and the environment. Because pesticides are designed to be toxic to unwanted organisms, there are many public concerns about the widespread use of pesticides and the potential risks they pose to human and environmental health.

DPR analyzes PUR data to provide both an overview of pesticide use in California and, along with information from other sources, some explanations for the trends of pesticide use. The summary reports of pesticide use by crop and active ingredients for each year provide hundreds of pages of data. Without extensive-time consuming analysis, it is difficult to get an overview of the most-used pesticides or most heavily treated crops and how the uses of these pesticides have changed over the years.

These data are studied in detail and analyzed in a number of different ways to help us understand some of the reasons for the patterns and trends in pesticide use. These kinds of analyses can help agencies understand where efforts to promote reduced-risk pest management strategies are succeeding or failing, help researchers better identify emerging challenges and direct research attention to finding solutions, help regulators arrive at realistic policy decisions that are both environmentally and economically sound and help the public understand why certain practices are used. Each year’s pesticide use data are summarized in an annual report and each report discusses pesticide use trends in some of California’s most important crops and presents use trends of pesticides sorted into risk-related categories, including:

- Reproductive toxins
- Carcinogens

- Insecticide organophosphate and carbamate chemicals
- All chemicals categorized as ground water contaminants
- Chemicals categorized as toxic air contaminants
- Fumigant chemicals
- Oil pesticides which include many different chemicals, but the category used here includes only ones derived from petroleum distillation. Some of these oils may be on the State's Proposition 65 list of chemicals "known to cause cancer" but most serve as alternatives to high-toxicity pesticides. Oils are also used by organic growers.
- Biopesticides that include microorganisms and naturally occurring compounds, or compounds essentially identical to naturally occurring compounds that are not toxic to the target pest (such as pheromones).

For more detailed information on pesticide use and trends, annual analyses are available on DPR's website at [www.cdpr.ca.gov/docs/purmain.htm](http://www.cdpr.ca.gov/docs/purmain.htm)

### *CalAgPermits*

In the late 2000s, the CACs collaborated with DPR to develop a new standardized system for restricted materials permitting and pesticide use reporting, called CalAgPermits. This system was implemented in all counties in 2012. The automated system will assist the CACs prepare restricted materials permits to validate and relay pesticide use reports electronically to DPR. The system accepts Pesticide Use Reports electronically from subscriber-based firms directly via the Web.

### *Ecological Health*

Pesticides are designed to be toxic to target pests. While their use instructions are intended to prevent adverse impacts on non-target species, including wildlife, there have been instances when pesticide use has been linked to adverse impacts on non-target species. The USEPA cooperative agreement sets specific criteria used to classify an incident involving a pesticide(s) as a priority episode depending on the effects and type of incident. The ecological health information presented below is obtained from those priority episodes that affect animals and wildlife or those having an economic loss involving livestock or bees for example. These effects criteria can be viewed under the cooperative agreement link (Attachment A) on DPR's website at [http://www.cdpr.ca.gov/docs/enforce/enf\\_auth.htm](http://www.cdpr.ca.gov/docs/enforce/enf_auth.htm).

In 2012, the Imperial County CAC investigated a potential pesticide-related bee kill from an aerial pesticide application to sugar beets resulting in an economic loss greater than \$20,000 for which administrative civil action is pending.

## **C) Program Limitations**

Each of the data systems discussed in this report is an independent data system. These systems met specific regulatory requirements for data collection when they were developed. As needs emerged to connect and track enforcement activities from beginning to end, it became evident that it is difficult to link data from one system to another. The goal for the future is to receive CAC workload, inspections and enforcement action data electronically from the counties into one consolidated system. The first step towards this goal began in 2010 with the implementation of an electronic reporting system to receive inspection data from the counties. DPR is currently in the process of evaluating their enforcement business processes to determine how to improve and consolidate its data systems to capture changing workload and performance measures.

Many DPR and CAC workload and standard enforcement and compliance reports are based on the state fiscal year. (Exceptions to this are the annual pesticide use, residue and pesticide illness surveillance reports and the CAC enforcement statistical profiles.)

DPR continues to address timelier reporting, collection and processing of data as it builds for the future in order to minimize the discrepancies and to improve its capacity to integrate and analyze data to assess the enforcement program.

### III. BUILDING FOR THE FUTURE

DPR and the CACs jointly identified, over the past few years, ways to improve DPR's processes and data collection. These efforts include:

- Revised the schedules for DPR's evaluation of county performance and the CACs' development of county work plans to allow sufficient time for collection, analyses and incorporation of key data and findings.
- Expanded the inspection data reported to better capture outputs and outcomes.
- Recommended future data collection and reporting needs to enable reporting of incidents and outcomes, as well as changes in specific workload resulting from the implementation of the ERR including preparing for hearings.
- DPR played a key role to produce a web-based statewide transparent complaint tracking system and associated communication process for CACs and stakeholders, including environmental justice considerations.

Began expansion of the residue screen for new pesticide products in the state food safety produce sampling program.

#### Emerging Tasks and Goals for the Enforcement Branch:

- Continue DPR's progress to strengthen the Department's ability to detect new pesticide products in the state food safety produce sampling program with DPR's laboratory partner, the CDFA Analytical Laboratories in Sacramento and Anaheim.
- Upgrade all Enforcement Branch databases in order to connect the data for DPR's enforcement activities from beginning to end. These efforts will address and improve upon the limitations stated earlier. Resources are a limiting factor in addressing these concerns.
- It is a goal of the Enforcement and Worker Health and Safety branches to develop an application to bridge existing databases (inspection, pesticide illness, enforcement action and residue databases) that currently exist independently. This will set the foundation to build a fully integrated pesticide regulatory data management system in the future that can improve the overall assessment of DPR programs and their effectiveness in protecting human health, food safety and the environment.

We expect that in the future, as we achieve revisions to and consolidation of DPR's databases, we will be able to more fully analyze and evaluate the impact DPR's regulatory program has on industry, compliance rates and improving human health and environmental protections.

## LIST OF ACRONYMS

<b>Acronym</b>	<b>Full Name</b>
AB	Assembly Bill
CAC	County Agricultural Commissioner
CACASA	County Agricultural Commissioners and Sealers Association
CDFA	California Department of Food and Agriculture
CAP	California Aeration Procedure
CE	Continuing Education
Cal/EPA	California Environmental Protection Agency
DFG	California Department of Fish and Game
DIR	California Department of Industrial Relations
DPH	California Department of Public Health
DPR	California Department of Pesticide Regulation
EPA	Environmental Protection Agency
EBL	Enforcement Branch Liaison
EPIC	Environmental Protection Indicators for California
ERR	Enforcement Response Regulations
ETEC	enterotoxigenic E. coli
FAC	Food and Agricultural Code
HSA	Healthy Schools Act
IPM	Integrated Pest Management
LC/MS	Liquid Chromatography/Mass Spectrometry
MDP	Microbiological Data Program (USDA)
MOU	Memorandum of Understanding
NAA	Non-Attainment Area
PDP	Pesticide Data Program
PISP	Pesticide Illness Surveillance Program
PRAMR	Pesticide Regulatory Activities Monthly Report
PUR	Pesticide Use Report
SB	Senate Bill
SIP	State Implementation Plan
SPCB	Structural Pest Control Board
STEC	shiga toxin producing E. coli
USEPA	United States Environmental Protection Agency
USDA	United States Department of Agriculture
VOC	Volatile Organic Compound