

DPR COMPLIANCE ASSESSMENT REPORT
Agricultural Pesticide Handler and Field Worker Safety Survey
June 1997 – March 2001
Executive Summary

BACKGROUND

The Department of Pesticide Regulation (DPR) is responsible for the administration of the statewide pesticide use enforcement program and for supervision of local enforcement programs administered by the County Agricultural Commissioners (CACs). California's pesticide laws and regulations are designed to safeguard pesticide handlers, field workers, the public, and the environment while allowing the use of effective pest management products. Compliance with California's pesticide regulatory program is essential for achieving the protections intended by this program.

In 1994 and 1995, a new federal Worker Protection Standard (WPS) was implemented nationwide, among other things revising employer requirements to give agricultural pesticide handlers personal protective equipment and safety training. Federal regulations also required pesticide registrants to improve the safety requirements on their pesticide labels and to include a reference to the federal WPS.

Although the federal standard drew on California's worker safety program as its model, there were significant differences between the two. In 1995, U.S. EPA recognized California's unique agricultural practices and worker safety program and conditionally approved a request by DPR for equivalency of its worker safety program. Approval became final with California's 1997 adoption of conforming regulations.

California law makes DPR and the CACs jointly responsible for implementing the pesticide use enforcement program. DPR's responsibilities include providing the CACs with the guidance and training necessary to carry out a use enforcement program that is consistent throughout the state. CACs enforce pesticide laws and regulations through activities that include pesticide handler inspections, industry outreach and training, private applicator certification, restricted material permit evaluation, conducting scheduled and unannounced inspections, investigating complaints and worker illnesses, and penalizing violators through the administrative civil penalty program. Because of the risks inherent in the large-scale, commercial application of agricultural pesticides, DPR and CACs have focused on increasing compliance by professional license-holders with the pesticide regulatory requirements. DPR believes that this well-placed focus, especially enforcement actions taken by CACs over the years, resulted in pest control business (PCB) compliance that is significantly higher than grower compliance.

DPR is responsible for the overall statewide program while the CACs administer the local program in their county. Although authorized to inspect, investigate and penalize pesticide handlers, DPR concentrates staff resources on evaluating the effectiveness of county programs; providing guidance to the CACs to assure uniform implementation;

assisting in county program planning; and presenting outreach to agricultural stakeholders. CACs utilize the policies, procedures, and training provided by DPR to assure statewide consistency in the administration of county pesticide use enforcement programs.

PURPOSE

The compliance assessment program is part of DPR's statewide effort to improve the quality of its Pesticide Enforcement Program. This assessment provides an evaluation of the effectiveness of the statewide enforcement program. Compliance may vary among specific industry sectors, employers or counties. DPR recognizes that the individual county assessments were a snapshot in time. However, by integrating the various county compliance assessments, DPR is able to construct a general overview that examines factors relative to improving the state/county pesticide program. Our goal is to improve pesticide safety among agricultural field workers and handlers, and protect public health and the environment from the adverse effects of improper pesticide use. The report includes assessment of compliance with rules and regulations government pesticide handlers, field workers, and closed systems used for mixing and loading hazardous liquid pesticides.

The purposes of the compliance assessment program are to:

- Develop compliance measurement standards that accurately reflect compliance by pesticide users with applicable provisions of the Food and Agricultural Code, California Code of Regulations.
- Use a predetermined set of criteria to collect data on pesticide user compliance through field observations by DPR staff.
- Develop compliance improvement strategies for implementation at the state and county levels.
- Aid county and state managers in making decisions on policy and regulatory changes, priority setting, and program planning.

SURVEY METHODS

Each assessment was conducted in one county by a two-person team over a 10- to 14-day period. In addition to conducting observations from 8 AM to 5 PM on Monday through Friday, Assessments were conducted on weekends, evenings and early mornings. This approach reduced logistical problems and allowed DPR staff to survey an area intensively and efficiently. DPR staff identified possible observation sites through information obtained from CAC staff, restricted material permit and operator identification records, and DPR's Senior Pesticide Use Specialist assigned to the county. Survey observations were selected and conducted according to established written procedures and staff documented their findings using checklists specific to each survey type. Between June 1997 and April 2001, DPR staff conducted 811 observations covering all survey categories. Staff conducted 572 observations of agricultural pesticide handling activities and 239 observations of field workers performing hand labor in fields with a history of

pesticide treatment. These observations covered a wide range of seasonal field activities in more than 60 crops, including fields, nurseries and greenhouses.

County Selection: DPR, in cooperation with the CACs, selected 20 counties for participation in this survey.). The counties were representative of the geographic and growing regions of the State. County selection was based on:

- 1) diversity of their agricultural industries.
- 2) location. DPR's enforcement field staff is divided among three geographic regions, and to make most efficient use of field staff, DPR divided the assessments between these regions each year.
- 3) type. DPR selected larger counties that had higher agricultural production, higher use of agricultural pesticides and higher numbers of handler and field worker activities to observe;
- 4) interest. Some CACs requested compliance assessment visits.

Work Activity Focus: This survey assessed compliance with worker safety requirements in four focused work activities:

- Pesticide handler compliance with worker safety regulations designed to prevent overexposure to pesticides.
- Field worker compliance with worker safety regulations designed to prevent overexposure to pesticide residues.
- Pesticide handler compliance with the DPR's closed system criteria. (DPR requires closed mixing and loading systems for handlers using certain, high-toxicity liquid pesticide formulations.)
- Methyl bromide field fumigation.

Interpretation of Survey Results: Compliance with worker safety requirements reduces the potential for injurious exposures to pesticides and pesticide residues. It is DPR's intention to achieve the highest rate of industry compliance possible. In recognition of this goal, DPR developed the following scale to assess the survey results, define areas needing improvement, and prioritize departmental initiatives:

- Desirable – 90 to 100 percent
- Acceptable - 80 to 89 percent
- Needs Improvement - Less than 80 percent

DPR staff developed checklists that identified the key observation criteria for each survey category and the "letter" codes used to document their results. The observation criteria focused on pesticide laws and regulations that had the greatest effect on worker safety. Staff used DPR's "Inspection Procedures Manual" to guide their data collection; however, in compliance assessment observations, they examined a narrower range of criteria than the routine inspections performed by the CACs. Staff used the standard inspection procedure checklists during compliance assessment observations to assure a thorough evaluation of all applicable criteria and accurate documentation of the results.

DPR staff coded violations of requirements for personal protective equipment (PPE) using “N” for “not in compliance” and “P” for “provided but not used.” “N” indicated that the PPE was not available at the work site, it was worn but in poor condition, or it was available but not worn due to poor fit. “P” indicated that the PPE was available and in good condition but was not worn by the handler.

SUMMARY OF FINDINGS

General Findings:

- DPR’s survey of agricultural pesticide handlers and field workers revealed compliance below the “Acceptable” level (80 to 89 percent) with regulatory requirements designed to mitigate exposure of agricultural workers to pesticides and pesticide residues.
- Growers in general had significantly lower compliance with the pesticide handler safety requirements than licensed pest control businesses.
- Pesticide handlers, especially growers, had low compliance that “Needs Improvement” level (less than 80 percent) with the provision and use of personal protective equipment, the use of closed pesticide handling systems, the requirement to post emergency medical care information, the provision of adequate decontamination facilities, and the posting of treated fields.
- The field worker safety survey showed no significant differences between grower and farm labor contractor compliance.
- This survey revealed operator compliance in the lower percentage of the “Needs Improvement” level (less than 80 percent) with the hazard communication posting requirements and with providing workers unimpeded access to accurate pesticide application information.

Agricultural Pesticide Handlers

- Growers showed significantly lower compliance than agricultural pest control businesses (PCBs) in most requirements observed. The differences were largest in the areas of emergency medical care posting, the availability of decontamination facilities, the use of personal protective equipment, and the safe use of closed systems. Growers had compliance below the “Needs Improvement” level (less than 80 percent) with the treated field-posting requirement. This requirement applied only to the operator of the property and not to the PCB making the application.
- Agricultural PCBs showed compliance below the “Needs Improvement” level (less than 80 percent) with some PPE requirements and the safe use of closed systems.
- The number of handler compliance observations in all survey criteria increased steadily from 0 percent to 100 percent, with the median at 82 percent. However, when PPE criteria were considered separately, handlers fell into two distinct groups: those with less than 40 percent compliance (repetitive violators) and those with 100 percent compliance. About 36 percent of the growers and 25 percent of the agricultural PCBs surveyed appear to be repetitive violators of the PPE requirements. For the purposes of this survey, a repetitive violator is a handler who is observed in

compliance with less than 40 percent of the requirements applicable to their pesticide handling activities.

- Handler compliance with the PPE requirements was similar for those using enclosed cab application vehicles and those operating without this engineering control. While median compliance was high (92 percent and 100 percent, respectively), repetitive violators composed about one-third of each group.

Field Worker Safety

Grower and farm labor contractors (FLCs) showed similar compliance with all survey criteria except for the provision of decontamination facilities where grower compliance was much lower than FLC compliance. Compliance well below the “Needs Improvement” level (less than 80 percent) was found with application-specific and hazard communication information display requirements in both grower and FLC fieldworker operations.

Closed Systems

- Many systems, either in their construction or their use, do not meet the Department’s closed system criteria. Systems often lacked appropriate probe seals or adequate rinsing capability.
- Handlers were observed using systems unsafely due to modifications made to decrease loading time (removal of probe seals), and improper maintenance of elements such as external sight gauges (open tank cover to observe filling).
- In some instances, staff observed physical incompatibilities between closed systems available at the location and the pesticide containers delivered to the use site. In addition, some pesticide labels have mixing instructions that are incompatible with the proper use of a closed system (requires tank hatch to be opened during loading or mixing).

CONCLUSION – RESPONSE TO FINDINGS SUMMARY

DPR’s survey of agricultural pesticide handlers and field workers revealed compliance levels needing improvement with regulatory requirements designed to mitigate agricultural workers’ exposure to pesticides and pesticide residues. DPR will work with county agricultural commissioners and agricultural industry representatives to improve compliance with new and long-standing regulatory requirements designed to protect the health of agricultural workers, and in doing so, protecting public health and the environment.

DPR intends to allocate resources towards improving compliance with survey observation criteria shown to have less than 80 percent average compliance and among

individual operators with less than 80 percent compliance with the observation criteria applicable to their handling activity. The strategies for compliance improvement follow.

Compliance Improvement Strategies

Short and long-term strategies will be used by DPR's Enforcement Branch to address the compliance issues discussed above. DPR's Enforcement Branch will implement the following strategies in conjunction with the CACs and with support from other DPR programs.

Enforcement and Compliance Actions

- DPR will continue to work with CACs to prioritize appropriate enforcement and compliance actions by using the Enforcement Guidelines (policy) and the fine guidelines (3CCR 6130) utilizing the information provided through the Compliance Assessment Program. DPR will provide refresher training on DPR's "Enforcement Guidelines" policy to assure consistent statewide implementation. **(Ongoing)**
- Recent legislative and regulatory action has given DPR the authority to take enforcement actions against violations committed in multiple jurisdictions or associated with priority investigations (as defined in the current U.S. EPA Cooperative Agreement). DPR also has the authority to refer those violations to the county District Attorney. DPR will issue a policy letter that explains the procedures DPR will use to implement the Department's enforcement action authority. **(Short term)**
- DPR will use its Enforcement Action Tracking database to compare the level of actions taken against growers and licensed PCBs. This assessment will be conducted to assure that all license or certificate holders and permittees receive equitable treatment of documented violations. **(Long Term)**
- DPR's Enforcement Branch will review the Enforcement Guidelines to determine the effectiveness of this policy and to propose improvements where needed. **(Short Term)**

Pesticide Use Monitoring and Records Inspections

- DPR will emphasize grower handler inspections relative to licensed PCB inspections in counties where grower compliance is significantly lower than PCB compliance. DPR will work with appropriate CACs to assure that this priority appears in their annual Negotiated Work Plans. **(Ongoing)**
- DPR will encourage CACs to increase the number of fieldworker inspections (target total for FY 2001/2002: 3000 inspections). This increase will address compliance below the "Needs Improvement" level with the Hazard Communication Information display requirements and provide CACs and DPR the opportunity to gain a better

understanding of the barriers to compliance with the application-specific information display requirement. **(Ongoing)**

Oversight and Guidance

DPR provides supervision and guidance to the CACs to assure statewide consistency in the administration of pesticide use enforcement programs at the local level.

- DPR staff will continue to conduct overview inspections with CAC staff during pesticide use monitoring and records inspections to determine adherence to established procedures and to assess CAC staffs' training needs. **(Ongoing)**
- DPR will use overview inspections to evaluate the accuracy of the compliance assessment in counties participating in the initial survey and as a general indicator of compliance in other counties.
- DPR will develop and/or update policies and procedures in response to identified program needs and provide follow-up training to CAC staffs to assure proper implementation. The Enforcement Branch intends to complete a review and revision of the pesticide use monitoring and field worker safety inspection procedures and forms by January 2002. **(Short-term)**.
- Enforcement Branch field staff will provide inspection procedures training (using current procedures) to specific CAC staff on the basis of established need, including the addition of new staff or deficiencies noted during overview inspections or the annual Effectiveness Evaluation of the county. DPR will schedule large-scale (regional) training soon after completion of the inspection procedure review **(Ongoing)**.
- DPR has committed to providing CACs with immediate access to current, updated Pesticide Laws and Regulation and Procedural Guidance Manual through DPR's external web site. Existing information is being reformatted to improve downloading and updating. **(Short term and mid-term, respectively)**

Evaluation of Statewide Pesticide Enforcement Program Evaluation

DPR uses information from a variety of sources to evaluate the effectiveness of the statewide pesticide use enforcement program and identify ways in which the program can be improved through state and local efforts.

- DPR's draft Strategic Plan aims to reduce human and environmental health risks by maximizing compliance with all regulatory requirements. To meet that goal, DPR intends to identify and address compliance problems identified through the annual analysis of compliance database. Starting fiscal year (FY) 2001/2002, DPR will begin

a pilot program to evaluate the use of CAC inspection information in the development of a compliance database. This will allow DPR and the CACs to identify and prioritize compliance problems, develop strategies to address the priority issues, and evaluate the effectiveness of those strategies on program improvement. **(Long-term)**

- The Field Worker Safety compliance survey identified barriers to the display and use of application-specific information. DPR intends to continue working with the U.S. EPA to assure increased protections of agricultural field workers through the provision of, or unimpeded access to, appropriate pesticide-related information. **(Long-term)**
- The closed system compliance survey identified barriers to safe use of these systems, including lack of training, improper maintenance, and system incompatibilities with pesticide containers or pesticide labeling requirements. DPR will work with the American Society of Agricultural Engineers (ASAE), the U.S. EPA, the agricultural industry, and university personnel in an effort to develop national performance standards for closed systems that load and/or transfer liquid and/or dry pesticides. **(Long-term)**
- DPR will use CAC inspection reports to document the engineering incompatibilities encountered during routine pesticide handling inspections and investigations. DPR will work with appropriate national organizations to promote the use of standardized, bulk, and/or recyclable containers for pesticides that require the use of closed systems. **(Long-term)**
- Some pesticide labels require the handler to add pesticides and adjuvants in a certain order to avoid adverse chemical reactions or poor mixing. Sometimes the handler must add other pesticides, including adjuvants, after loading the pesticide that requires the use of the closed system. DPR will use CAC inspection reports to document pesticide-labeling incompatibilities encountered during routine pesticide handling inspections and investigations. **(Long-term)**

Outreach to Public and Industry Stakeholders

- DPR conducts outreach to industry groups that addresses all elements of the departments programs and priorities. As a result of information collected during the Compliance Assessment surveys, DPR will focus on improving agricultural employers' compliance with pesticide safety requirements through the use of videos, hotlines, brochures and presentations. **(Short-term)**

Sharing Compliance Assessment Information

- DPR intends to present compliance assessment findings to industry groups such as grower and commodity groups, labor and public training organizations and to licensees through continuing education classes. **(Short-term)**

General Outreach Presentations

DPR staff will continue to provide field worker safety and pesticide handler safety outreach and training to industry members, licensees, and CAC staff. **(On-going)**