

Executive Summary

The annual report summarizes pesticide incidence data collected by agencies during 2006 and activities of the PIRT Review Panel for 2007.

The legislature created the Pesticide Incident Reporting and Tracking (PIRT) Review Panel (RCW 70.104.090) to monitor pesticide-related incidents that have suspected health or environmental effects. PIRT panel members include representatives of six state agencies and the Washington Poison Center (WPC) that respond to statewide incidents, two university members, and a Governor-appointed toxicologist and public member. (Appendix A).

Member agencies conduct pesticide incident investigations in accordance with their specific statutory responsibilities and report findings to the PIRT panel for evaluation. PIRT submits an annual report summarizing pesticide incidents to the legislature. This 2007 report presents individual and combined agency data for 2006 and a summary of the activities of PIRT and its member agencies for 2007.

Panel Activities and Issues for 2007

PIRT made 11 recommendations for collective and member agency action for 2007 (Appendix X). Ongoing, mandated recommendations include review of member agencies' independent strategies to reduce pesticide incidents based on combined PIRT data, and reporting on product labels that are inadequate or unclear.

The PIRT panel monitored the following issues in 2007: pesticide drift (page xx), pesticide air monitoring (page xx), pesticide use in schools (page xx), pesticide use in response to West Nile virus (page xx), Worker Protection Standard (page xx), Pesticide Notification pilot project.

Findings and Recommendations

The PIRT panel presents the following findings and recommendations based on all agency information.

1. Loss of staff and lack of resources reduced the number of investigations conducted by L&I in 2006. Understaffing compromised DOH's capacity to collect sufficient information to classify cases as definitely, probably or possibly related to pesticide exposure. Remaining staff lacked resources (primarily time) to locate difficult-to-reach individuals and employers. The PIRT panel acknowledges that pesticide incident investigators need to have high levels of training and rapid response capacity. It is important that agencies have sufficient first line staff and redundancy within their organizations to accomplish rapid, effective investigations when they are needed.
2. The financial penalties for pesticide-related label violations and worker protection violations appear to be quite low. WSDA fines averaged \$961 with

Draft June 16, 2008

a median of \$600 for fines in 2004-2006. In 2006, L&I fined a total of \$13,050 for seven failures to abate and ten serious pesticide-related citations. The average failure to abate penalty is \$958, and the average serious citation penalty is \$720. L&I defines a serious violation as a “substantial probability that death or serious physical harm could result from a condition . . . in the workplace” The PIRT panel has not attempted to compile estimates for the costs to human health, the environment, and crops associated with the documented violations, but the fines appear to be low relative to the impacts. The PIRT panel recommends that the legislature work with regulatory agencies to assess whether the penalties associated with violations are sufficient to prevent and deter illegal behavior.

3. Pyrethrin and pyrethroid pesticides have largely replaced organophosphate and carbamate insecticides in urban and suburban pest control. Although the newer products are less acutely toxic to humans, pyrethrins and pyrethroids still can cause significant injury to humans and the environment if misused. In addition, the Panel is concerned about the growing evidence that allergic and respiratory reactions to inhaled pyrethroids can cause serious medical outcomes, including death. DOH and their Oregon counterparts recently completed a paper highlighting this emerging problem. The paper will soon appear in Public Health Reports. Fish, crustaceans, and non-target insects are particularly sensitive to pyrethroids. These products have been analyzed in sediment samples collected by King County. Further analysis of pyrethrins and pyrethroids in aquatic sediment will be continued by Ecology in late 2008. Pyrethroid products are a frequent source of pesticide-related human exposure calls to WPC. More attention must be paid to ensure that packaging, user instructions, and educational materials to sales establishments and users are appropriate to reduce pesticide exposures and incidents associated with these pesticides.
4. Pesticide exposure incidents involving children appear to have occurred primarily as a result of human body pest (lice, flea, mosquito) products or lawn/home/garden products. There was one WSDA-verified incident of drift from a commercial lawn application that exposed several children, but fortunately, no adverse health effects occurred. The public and consumers must continue to be attentive to practices that keep pesticides out of reach of children and promote uses only in compliance with label instructions.
5. The PIRT report, especially the DOH appendix (Annual Summary Report of Definite, Probable and Possible Exposures), is a useful archive of core information about pesticide incidents in a calendar year. If an assessment of associated and contributing factors to the incidents were included in such reports, then prevention strategies could be more easily developed and targeted. PIRT recommends that resources be provided so first line pesticide incident investigators or others reviewing cases can create a concise summary of information (crop, target pest, active ingredient,

Draft June 16, 2008

associated and contributing factors to the incident) to help derive conclusions about causal factors and formulate solutions.

6. As in prior years, drift continues to be the number one source of pesticide illness in agriculture. Three PIRT member agencies continue to collect information on the factors associated with known drift events through the drift checklist project sponsored by NIOSH and through the Pesticide Air Monitoring study funded by the Washington State Legislature. This air monitoring study is sampling for organophosphates commonly used in tree fruit and for metam sodium break-down products used in potato production. DOH will complete these studies, evaluate resulting data, and provide policy recommendations in future reports.

7. Bilingual outreach, education, and investigation are an important part of reducing incidents. Anxiety increases and safety is reduced when workers cannot communicate or understand the warnings and procedures of their supervisors and pesticide safety materials. Investigations suffer when investigators can not communicate with those involved. Bilingual programs, pesticide information, safety materials, WPC poison information specialists, and agency investigators improve training, response time, investigation quality, enforcement actions, and safety. WSDA, L&I, and DOH all participate in, or conduct, bilingual pesticide safety education programs and investigations. WPC does not currently employ bilingual intake operators. The PIRT Panel recommends that adequate bilingual programs and bilingual staff capacity receive strong support.

8. As West Nile Virus moves into Washington, health, pesticide regulatory, and emergency management agencies must be ready to address health concerns and possible increased pesticide usage with sufficient incident information, technical assistance capability, and regulatory capacity. County agents and others charged with addressing preventive measures through public education and mosquito control should be assisted by state agencies to assure all parts of Washington are appropriately prepared. PIRT recommends that resources be available to counties for preventative efforts such as surveillance and larviciding and for implementing effective public notification when pesticide applications occur.

9. In 2007-2008, the DOH and PIRT attempted to streamline the PIRT report and produce 2006 data summaries and important conclusions prior to or during the 2007 Legislative Session. PIRT attempted to produce a Preliminary Report of DOH cases accompanied with summary and recommendations from the Panel. A full report, with complete data would be available during the legislative session. This strategy was not successful. Neither the Preliminary Report nor the PIRT transmittal letter were prepared or approved quickly enough to be delivered to the legislature by close of session in April, 2008. PIRT Panel members are committed to addressing

Draft June 16, 2008

this failure. In 2008, PIRT agencies have committed to assemble their investigation data earlier and the PIRT Panel will start reviewing the agency data and preparing the full report earlier. The PIRT Panel is limited in its legal authority to control how quickly specific agencies produce their data summaries, or how quickly reports are reviewed by agency upper management, or how quickly they are reviewed by OFM.

2006 Summary Data for PIRT Agencies

The following agency summaries identify key points from the analysis of 2006 pesticide incident data.

Department of Agriculture

In 2006, WSDA investigated 206 pesticide-related complaints. After investigation, it was determined that 128 (62%) involved pesticide applications and 78 (38%) were unrelated to actual applications. During 2006, 137 (67%) of WSDA complaint investigations resulted in some type of violation. Drift continues to be one of the most frequent types of complaint involving pesticide applications. WSDA received 63 complaints about drift in general and 16 complaints specifically about human exposure due to drift. Licensing, misuse, sales and distribution, and Structural Pest Inspections were other areas in which WSDA received numerous complaints. Other complaints concerned such issues as direct misapplications and animal deaths.

Department of Ecology

In 2006, Ecology investigated 34 pesticide-related complaints involving threats to air, water, or soil. Ten complaints concerned threats to ground or surface water, ten involved unsafe pesticide storage and handling, nine involved pesticide disposal or waste concerns, and five involved spills or fires. Ecology is responsible for oversight of contaminated areas requiring cleanup or monitoring. During 2006, Ecology placed seven new pesticide-contaminated sites on the Toxic Cleanup Program list. Ecology's Water Quality program is responsible for aquatic pesticide and mosquito control permitting, as detailed in Ecology's summary.

Department of Health

In 2006, DOH investigated 232 pesticide incidents involving 254 individuals. Of the 254 illnesses/injuries, 149 (59%) were classified as definitely, probably, or possibly (DPP) related to pesticide exposure.

Forty-four (30%) of the 2006 DPP cases were related to agriculture. Twenty-eight agricultural cases were associated with the tree fruit industry, two with other fruit crops, eight with field and vegetable crops, and three with ornamental nurseries. The remaining three cases were not associated with applications to specific crops. Thirty-seven agricultural cases involved agricultural workers. Of these, 26 workers were handling pesticides at the time of their exposure.

There were 105 non-agricultural DPP cases in 2006. Thirty-eight of these occurred on the job (occupational) and 67 were non-occupational. Of the 38 occupational cases, 26 were handling pesticides at the time of exposure. Sixty-

Draft June 16, 2008

six of the 67 non-agricultural, non-occupational exposures occurred in residential settings.

Department of Labor and Industries

L&I's Division of Occupational Safety and Health (DOSH) Services Division conducted 17 pesticide-related safety and health inspections in 2006. Fourteen (82%) of the inspections resulted in general, serious, or failure to abate citations being issued to the employer, and three inspections did not involve citations.

In 2006, the L&I Insurance Services Division, Claims Administration Program received 110 claims which appeared to be related to pesticide illness and referred these to DOH. Of the 110 claims, 74 (67%) were compensated by L&I as being work related injuries and 36 were rejected. Fifty-nine (54%) were related to agriculture and 51 were non-agricultural. DOH investigated the 110 claims and classified X agricultural and X non-agricultural claims (X% of all claims) as having signs or symptoms that were definitely, probably, or possibly related to the pesticide exposure.

Comment [A1]: Fran will get these numbers.

Of the X DPP agricultural workers, X claims involved workers in the tree fruit industry, x involved the potato industry, and x were in nurseries or greenhouses.

Washington Poison Center

In 2006, WPC provided immediate professional medical advice regarding pesticide-related questions and emergencies to 2,144 callers. Of the 2,144 calls, 1,213 involved insecticides and 104 involved insect repellents. Herbicides were involved in 385 of the calls. In 2006, 36 (1.7%) pesticide-related human exposure calls involved moderate or major health effects. Fifty-two (2.4%) calls involved intentional exposure. DOH screened all human pesticide-related illness calls to WPC and investigated 124 calls where the caller sought medical care and the exposure was not part of a suicidal gesture. Eighty of these involved illnesses determined to be definitely, probably or possibly related to pesticide exposure.