

2000 - 2001 Annual Report

Pesticide Incident Reporting and Tracking (PIRT) Review Panel

April 2002

(Includes Agency Data for 1995-1999)



Environmental Health Programs
DOH 334-293 April 2002

2000 - 2001 Annual Report

Pesticide Incident Reporting and Tracking (PIRT) Review Panel

A report to the legislature as required by
Chapter 380, Laws of 1989, and RCW 70.104

April 2002



Environmental Health Programs
Office of Environmental Health and Safety
P.O. Box 47825
Olympia, Washington 98504-7825

Contact:
Lynden Baum, Manager
Pesticide and Surveillance Section
Toll Free: 1-888-586-9427
Fax: (360) 236-2257
Email: lynden.baum@doh.wa.gov

Page	Contents
1	Executive Summary
3	Introduction
4	Actions on 2000 Recommendations of the PIRT Review Panel
5	Recommendations to the PIRT Review Panel and involved Agencies'
5	PIRT Activities
7	1999 Agency Summaries of Pesticide Incidents
8	Washington State Department of Agriculture
15	Department of Ecology
15	Department of Fish and Wildlife
16	Department of Health
27	Department of Labor and Industries
33	Washington Poison Center
	Appendices
A	Pesticide Incident Reporting and Tracking (PIRT) Review Panel: <ul style="list-style-type: none"> • RCW 70.104.070-090 • List of PIRT Panel Members • Pesticide Incident Definition • Agency Roles and Responsibilities • Agency Response Time Mandates
B	PIRT Agendas
C	<ul style="list-style-type: none"> • DOH Relationship Classifications • DOH Severity Index
D	Agency Data Summaries: <ul style="list-style-type: none"> • Washington State Department of Agriculture • Department of Health • Department of Labor and Industries
E	WSDA Pesticide License Types

Executive Summary

This is the tenth annual report of the Pesticide Incident Reporting and Tracking Review Panel (PIRT Review Panel). It describes the activities of the panel for the year 2000 and presents and evaluates pesticide incidents reported to four state agencies: Washington State Departments of Agriculture (WSDA), Ecology, Health (DOH), Labor and Industries (L&I), plus the Washington Poison Center (WPC) in 1999. At the request of the PIRT Review Panel this report includes data and inferences from a five-year analysis of pesticide incidents reported for the years 1995-1999.

In accordance with the PIRT Review Panel's legislative mission, response times were tracked for complaints filed with DOH, L&I and WSDA. The agencies are meeting their mandates by responding to most human health cases within 24 hours.

The following summarizes key points identified from the analysis of pesticide incident data.

Washington State Department of Agriculture (WSDA)

For the years 1995-1999 WSDA investigated 1,110 pesticide-related complaints. Over the five years, the annual number of complaints reported and investigated decreased but the number of violations resulting from those complaints remained relatively constant. Approximately half of all complaints reported to WSDA resulted in one or more violations. The greatest number of cases with violations occurred in the agricultural environment and involved commercial applicators. Drift and human exposure continue to be the primary reasons for pesticide-related complaints. Eighty percent of WSDA complaints investigated since 1996 were rated as two or less on a severity scale of zero to six. In 1999 WSDA investigated 192 complaints. The most serious complaints involved bee kills, animal poisoning, plant damage and human exposure.

Washington State Department of Ecology

For the years 1995-1999 Ecology investigated 170 incidents involving pesticides. Counties reporting the most complaints were Yakima and King. The majority of these complaints involved spills or other accidental releases to the environment.

Washington State Department of Health (DOH)

From 1995 through 1999, DOH investigated 1,818 pesticide incidents involving 2,246 individuals. Approximately half of the individuals were classified as having pesticide-related symptoms. These cases were determined to be definitely, probably or possibly related to the pesticide exposure. Ninety-seven percent were classified as having a medical outcome of mild or moderate severity. Approximately half of the cases occurred in the agricultural environment. The majority of agricultural cases occurred in the production of tree fruit. Eye irritation was the most frequently (55%) reported health complaint. Most occupational incidents resulted from applicator exposure or pesticide drift. Occupational non-agricultural cases occurred primarily in office buildings and were of mild severity with eye irritation the most prevalent symptom reported. Non-occupational cases occurred most frequently in and around the home. The number of incidents reported to DOH since 1995 decreased. However, the number of individual cases determined to be pesticide related remained approximately the same, except for a decrease in 1999. In 1999, DOH investigated 271 incidents involving 332 individuals, and 140 of these were pesticide related.

Washington State Department of Labor and Industries (L&I)

From 1995 through 1999, L&I conducted 156 pesticide-related safety and health investigations and 1,154 worker claims involving pesticides were referred to DOH for investigation. While the number of health and safety investigations remained approximately the same over the five-year period, the number of pesticide-related claims decreased by 25 percent. The greatest number (70%) of agricultural pesticide-related claims result from work in the tree fruit industry. In the non-agricultural environment the greatest number of pesticide-related claims came from the office environment.

From 1995 through 1999, fifty-four percent of the pesticide-related claims were confirmed by a health care provider. Since 1996, there has been an increase in the percentage of accepted pesticide-related claims. L&I pays the initial diagnostic and evaluation costs of worker compensation claims regardless of the final decision. In 1999, L&I conducted 37 pesticide-related investigations and 12 of these had serious violations.

Washington Poison Center (WPC)

In 1999, the WPC responded to 2,523 calls involving pesticide exposures. This reflects approximately 2 percent of the total number of calls received by WPC. Since 1995, there has been a 25 percent reduction in the number of pesticide-related calls and a 54 percent decrease in the number of calls with moderate or major health effects. Insecticides continue to be the type of pesticide most frequently involved (64%).

Introduction

The PIRT Review Panel was created by RCW 70.104.090 (Appendix A). Its membership consists of representatives of six state agencies, the University of Washington, Washington State University, the Washington Poison Center (WPC), a practicing toxicologist and a member of the public.

By statute, the PIRT Review Panel is mandated to perform the following activities with regard to pesticide-related incidents that have suspected health or environmental effects:

- Centralize the receipt of information regarding pesticide complaints and their investigations and monitor timeliness of agencies' response to complainants.
- Identify inadequacies in pesticide regulations that result in insufficient protection of public health.
- Submit an annual report summarizing pesticide incidents to the legislature.

Each agency conducts pesticide incident investigations in accordance with its specific statutory responsibilities (Appendix A) and reports findings to the PIRT Review Panel for evaluation and inclusion in the annual report. The PIRT Review Panel has no regulatory authority but acts in an oversight capacity to the six agencies and makes recommendations to the agencies, to the legislature or to the federal Environmental Protection Agency.

This report describes activities of the PIRT Review Panel and its recommendations for 2002. It also contains a review of the WSDA, DOH, Ecology, and L&I pesticide-related complaints and the WPC calls for 1999, and provides analyses of each agency's incident data from 1995 through 1999. Each agency review describes the most frequent causes of reported pesticide exposure and identifies risk factors for consideration by training and education programs.

Activities of the Pesticide Incident Reporting and Tracking Review Panel

The PIRT Review Panel met seven times in 2000 and 10 times in 2001. The panel monitored each agency's response time to calls on complaints, monitored actions stemming from recommendations made in the prior PIRT Review Panel Annual Report, analyzed incident data to identify trends and patterns of problems related to pesticides, and responded to requests for special activities from the members.

Response Times

RCW 70.104.080 specifically directs the PIRT Review Panel to monitor agency response time to pesticide-related complaints. Response time is defined as the interval between initial receipt of a complaint and an agency's first response to the complainant. The first notification is usually by telephone, followed by a personal contact. In 1999, WSDA responded to 94 percent of all complaints within 24 hours; DOH responded to 95 percent of complaints within 48 hours; and, L&I responded to the majority of complaints within 30 days. The three agencies have different mandates for response times (Appendix A).

Actions on 2000 Recommendations of the PIRT Review Panel:

- Prepare a five-year analysis of incident data.
Action: The five-year (1995-1999) data analysis of reported pesticide incidents is included in this report. The number of reported pesticide incidents appears to be declining, however the number of incidents resulting in a WSDA “violation” and the number of incidents determined to be actually pesticide related by DOH has remained relatively constant over the five years. Overall, the severity of clinical symptoms remained of mild to moderate severity.
- Identify risk factors for the agencies to incorporate into their training and education programs.
Action: The PIRT Review Panel identified risk factors from the five-year incident data analysis. The factor “off target drift” continues to be a primary source of exposure. Eye irritation from occupational exposure is the most commonly reported health complaint.
- Review agency data for active ingredients involved in pesticide incidents.
Action: The panel reviewed data for active ingredients involved in incidents. No clear pattern could be established from incidents resulting in the more severe human incidents. Over the 5 years, the pesticides most frequently involved in incidents investigated by WSDA were: 2,4-D, Dicamba, Glyphosate, Azinphos-methyl, and Diazinon.
- Review a sample of pesticide labels involved in incidents to determine if instructions were adequate to have prevented the accident had they been used according to the label.
Action: The PIRT Review Panel reviewed WSDA and DOH cases occurring in commercial establishments. A review of seven WSDA cases found that adverse outcomes generally occurred for applications made when people were present. Label messages were ambiguous and did not clearly advise that persons other than the applicator were to ‘vacate the premise’. DOH had reports of 88 incidents that occurred in commercial establishments. The DOH review of the product labels was inconclusive because the incidents involved many different products, exposure scenarios were diverse, and the data system could not provide the specificity needed to address if directions on the label were followed correctly. The panel continues to address the issue.
- Prepare revisions to RCW 70.104.070-090 to more accurately address pesticide issues of concern to the public, and to reflect activities of the PIRT Review Panel.
Action: The panel reviewed the PIRT Panel statute, RCW 70.104.070-090 and noted where revisions were needed. The panel will draft proposed revisions for introduction to a future legislative session.
- Identify agency activities regarding urban pesticide use.
Action: This was an agenda item at several PIRT meetings in 2000 and 2001. Information was shared and communication increased between the agencies. The panel will carry this recommendation into next year’s work plan.

Recommendations to the PIRT Review Panel and the involved Agencies' staff:

- Further assess the 5-year incident data and identify possible prevention measures.
- Each agency improve its process and timeline for submitting analyses of incident data for the PIRT Review Panel annual report.
- Each agency continue its appraisal of pesticide use outcomes in urban areas.
- The PIRT Review Panel and the agencies seek how to capture better information about why the incident actually occurred.
- Both PIRT Review Panel and the agencies direct additional attention to the adequacy of the product label wording.
- Prepare draft legislation to modify RCW 70.104

Other Activities of the PIRT Review Panel

Pesticide Use Reporting-Other States' Experiences

On October 20, 2000 the PIRT Review Panel held a joint meeting with the WSDA Pesticide Advisory Board in Lacey, WA. At that meeting representatives from Oregon and California briefed the attendees on the status of pesticide use reporting for their states. California has had an extensive use reporting system since 1990. Information collected includes: location, date, crop, pesticide, strength and application rate, and applicator. The data are used widely to estimate exposure rates. Oregon's program is being developed with the goal of implementation by 2002.

Gypsy Moth Eradication-Use of Btk

In May 2000, WSDA contracted for the aerial application of Foray 48B to 725 acres of residential Seattle to prevent infestation of the Asian gypsy moth (AGM). Foray 48B, which contains *Bacillus thuringiensis kurstaki* (Btk), a naturally occurring agent of disease in caterpillars, was applied in the neighborhoods of Ballard and Magnolia. Simultaneously, DOH surveillance yielded reports of 59 persons in 50 households with at least one health "symptom" occurring after aerial spraying. Fourteen individuals from eight households sought some type of health care. The most frequent health complaints were: cough, headache, trouble breathing, sore throat, nasal congestion, and irritated eyes. The estimated population in the spray area was 6,600. Foray 48B was also used in ground applications to control European gypsy moth in Covington and Marysville. In May 2001, ground applications were made to a 29-acre site in Vader, WA for European Gypsy moth. No complaints were reported. It was recommended that future WSDA programs continue wide and early notification and provide public access to scientific documentation.

National Evaluation of the Worker Protection Standard (WPS) Worker Training

Alice Larson briefed the Panel on the EPA evaluation of the effectiveness of the WPS as a means to reduce the risk of pesticide poisoning and injury among workers and pesticide handlers. The process involves representatives from farmworkers, growers, state agencies and federal representatives, etc. Preliminary findings cover whether training is happening, barriers to the training, how to make the training more effective, and effective training verification systems.

Table 1 summarizes 1999 pesticide-related incidents for each agency submitting data, and data from the Washington Poison Center. The incident data from each agency are described and evaluated in the following sections. Individual incident descriptions are found in Appendix D. Because of specific statutory responsibilities, incidents may be reported and investigated by more than one agency.

Table 1 1999 Agency Summaries of Pesticide Incidents

Department of Agriculture: 192 complaints.			
Complaints	192	Violations by Type of Activity	101
Violations	101	Agriculture	50
Location of complaint:	192	Commercial/industrial	19
Eastern Washington	151	PCO/WDO	11
Western Washington	41	Residential (homeowner)	10
		ROW	1
		Other (license/records)	10
Enforcement Actions	192	License Involved with Violations	101
No Action Indicated	91	Commercial	50
Notice of correction	64	Private Applicator	25
Notice of Intent/Admin action	20	Unlicensed	13
Technical assistance/verbal warning	5	Public operator	6
Advisory letter/Warning letter	10	Commercial Consultant	6
Referred	2	Other	1
Department of Health: 271 incidents involving 332 individual cases.			
Type of Incident	271	Relationship to Exposure for cases	332
Agriculture	155	Definite 26	Unrelated 35
Residential	57	Probable 53	Asymptomatic 27
Commercial/industrial	25	Possible 61	Unknown 64
Other	34	Unlikely 66	
Childhood Cases ≤ 18 years old	44	Definite, Probable, or Possible Cases	140
Definite, probable, or possible	14	Non agricultural	72
		Agriculture	68
Department of Labor & Industries: 37 Industrial Safety and Health Act (WISHA) complaints		Department of Labor & Industries: 183 worker compensation claims.	
Pesticide Related Inspections	37	Worker Compensation Claims	183
Citations	30	Agriculture	130
Type of Business		Non Agriculture	53
Orchard	16	Benefits	
Vegetable crops/berries	7	Accepted	118
Other (e.g., bulb warehouse, hops, golf courses)	5	Rejected	63
Greenhouses/nurseries	5	Claim pending	1
Hay fumigation	2	Kept on Salary	1
Structural pest	2		
Washington Poison Center: 2,523 calls			

When violations are evaluated by type of license involved for the five-year period, commercial applicators accounted for 270 (52%) of the violations, private applicators accounted for 94 (18%), public operators accounted for 33 (6%), commercial consultant accounted for 17 (3%), unlicensed accounted for 92 (18%), and other accounted for 12 (2%) (Table 5). (See Appendix E for definition of license types).

Table 5 Type of License Involved in Cases with Violations

	1995	1996	1997	1998	1999	Total
Commercial (application for fee)	51	61	57	51	50	270 (52%)
Private applicator (application to own property)	12	12	15	30	25	94 (18%)
Public operator (application to public property)	4	2	10	11	6	33 (6%)
Unlicensed (general use, homeowner)	16	25	22	16	13	92 (18%)
Commercial Consultant	4	4	3	-	6	17 (3%)
Other	-	-	3	8	1	12 (2%)
Total complaints with violations	87	104	110	116	101	518

The 1999 data are consistent with prior years and reflect a continued increase in violations by commercial applicators and a decrease in violations by individual users holding private applicator licenses. It may indicate that more applications are being made by commercial applicators and fewer by non-commercial individuals as equipment and application techniques become increasingly more sophisticated and expensive and active ingredients more restricted in use.

In 1999, WSDA issued a total of 22,546 licenses. Over 50 percent of these were Private Applicator licenses (11,853) followed by Commercial and Public Operator licenses.

Nature of Pesticide Complaint

Table 6 shows the type of complaints for 1995-1999. Drift exposure continues to be an area of concern with complaints resulting from pesticides allegedly moving off target. In 1999, 64 complaints involved drift, followed by human exposure (31), misuse (20), direct exposure (19), bee kills (14), Pest Control Operator/ Wood Destroying Organism (PCO/WDO) (11), records/license (5), disposal (5) and other (23).

Table 6 Type of Complaint 1995 – 1999

Type of Complaint	1995	1996	1997	1998	1999	Total
Drift	64	75	50	62	64	315
Human exposure*			42	52	31	125
WDO Inspection	30	32	23	10	11	106
Direct	115	90	21	13	19	258
License	21	19	14	12	5	71
Misuse*			16	19	20	55
Animal/bird kill*			10	7	0	17
Bee kill*			8	12	14	34
Water contamination*			6	4	0	10
Disposal	6	6	3	2	5	22
Other	23	29	11	11	23	97
Total	259	251	204	204	192	1,110

*Categories not specified prior to 1997

Drift and human exposure were the primary reasons for pesticide related complaints and illustrate the need for applicators to be consistently aware of the importance of not letting an application drift. Bee kills also generate a significant number of complaint investigations. Both drift and bee kill complaints may not be resolved, as the responsible applicator can be difficult to identify.

Pesticide exposure to applicator/mixer/loader

The largest number of pesticide-related cases occurred among individuals applying, mixing or loading pesticides (Table 14). DOH received 319 reports of suspected, pesticide-related illness involving applicators, mixers and loaders and 173 (54%) of these were considered definite, probable or possible cases. They included ground applications (122), miscellaneous uses (26), and mixing or loading (25). Of these cases, 103 (60%), occurred in the tree fruit industry, 46 (27%) occurred in field crops, and 24 (14%) occurred in other agricultural commodity groups.

Table 14 Agricultural Occupational and Non-occupational Cases by Source/Activity 1995 – 1999

Source/Activity	Occupational	Non-occupational	Total
Applicator/mixer/loader	173	0	173
Drift	95	56	151
Residues	74	7	81
Clean/fixing	10	0	10
Fumigation field	4	1	5
Accident	14	3	17
Other	6	6	12
	376	73	449

** Limited to cases with illness classified by DOH as definitely, probably, or possibly due to pesticide exposure.*

The following examples illustrate the pathways of exposure among pesticide applicators, mixers and loaders:

- Pesticide drifted under shirt collar onto neck during application.
- Applicator did not wear Personal Protective Equipment (PPE) when spraying.
- Applicator took off his PPE after spraying and had an asthma attack.
- Safety goggles were in poor condition.
- Applicator Wore PPE but removed goggles and rubbed eyes.
- Pesticide splashed in eye while spraying.
- Case used work shirt to wipe sweat from head causing skin irritation.
- Unlicensed applicator not wearing PPE developed conjunctivitis.
- Applicator developed severe skin burn to his foot by not wearing rubber boots.
- Applicator wore respirator but no goggles when applying to a grain bin. Developed severe eye irritation.

Exposure to off target pesticide drift

From 1995 through 1999, 151 definite, probable or possible cases of agricultural pesticide illness were due to exposure to pesticide drift. Of these, 95 were occupational with 49 in fruit production, 40 in field crops, 4 in nursery and greenhouses, and 2 in livestock. Of the 56 non-occupational drift cases, 32 resulted from applications made to fruit, 14 to row crops, 7 to berries, and 3 to forests. The 95 occupational drift cases were classified as definite (14), probable (25), and possible (56).

The severity of symptoms reported by the 95 occupational drift cases was mild (39 (41%)), moderate (49 (52%)), and severe (7 (7%)). This compares to mild (63%), moderate (33%), and severe (4%) for all occupational agricultural cases. Descriptions of the seven severe drift cases follow:

- An aerial application to a potato field drifted onto three farmworkers who were tying apple trees. All three became ill.
- Two of seven apple orchard thinners developed severe symptoms following exposure to pesticide drift from an application to another orchard.
- An irrigation technician was exposed to pesticide drift from an aerial application. He was treated for organophosphate poisoning.
- Two field workers inadvertently walked into a field during an application. They were not wearing PPE. One became ill.

Exposure to pesticide residues

From 1995 through 1999, there were 81 agricultural cases (classified definite, probable or possible) resulting from exposure to pesticide residues; 74 of the 81 were work-related. These occurred in the production of fruit (56), field crops (5), vegetables (4), nursery or greenhouses (11) and other (5).

Occupational exposure to pesticide residues was the most (394) frequently reported cause of agricultural pesticide illness, but only 19 percent of these illnesses were classified as definite, probable or possible. Ninety-eight percent of all occupational residue-caused cases sought medical attention and 61 percent of these were classified by DOH as unlikely or unknown. Although pesticide residue may be present hours to days after an application and can be in the air, soil, dust, or on vegetation, it may also be that the illness resulted from irritation by the foliage or branches, or was not work-related. The most common complaint of individuals exposed to residues is of a dermal and respiratory nature with the majority (78%) classified as mild to moderate severity. It is difficult for the health care provider to associate these mild to moderate symptoms with pesticide residues. For most cases prescriptive or over-the-counter medications will alleviate symptoms, but it often remains unclear as to whether the reported illness was pesticide-related or due to something else.

The following are examples of illnesses reported from exposure to pesticide residues (*examples are from all reported cases, not just definite, probable or possible cases*):

- Farmworker thinning pear trees developed a rash and itching.
- Farmworker thinning apple trees developed shortness of breath and wheezing. Spray records showed last application was four days before symptoms.
- Farmworker covering apples with paper bags developed extensive hives.
- Nursery worker mowed lawn 24 hours after herbicide application. The re-entry interval (REI) was 48 hours.
- Farmworker drove through an apple orchard within the REI.
- Apple thinner became ill and saw a doctor eight days after symptoms began. Spray records showed a pesticide application was made 48 hours earlier.
- Farmworker working on a tractor reported symptoms possibly related to exposure from entering a hop field sprayed two hours before with a miticide. He was not wearing PPE, the REI had not expired, and he did not see the warning signs.

Symptoms and Severity Associated with Agricultural Pesticide Cases

Table 15 shows the health complaints reported by type of exposure or activity and whether the incident occurred occupationally. Individuals often report more than one health complaint and all are included in this table. The most frequently (55%) reported health complaint among occupational definite, probable or possible cases was eye irritation. Eye irritation was reported in 64 percent of the applicator/mixer/loader cases and 80 percent of the cases involving cleaning or fixing equipment.

Systemic effects (headache, nausea, dizziness, etc.) was the second most frequently reported category of illness. Systemic effects were reported in 52 percent of the occupational cases and 68 percent of non-occupational cases. Respiratory effects were reported in 46 percent of drift cases and skin problems were associated with 51 percent of residue cases.

Table 15 Symptoms* by Exposure Activity/Source for Agricultural Occupational and Non-occupational Cases 1995 – 1999**

Exposure Activity/Source***	Eye		Systemic		Skin		Respiratory		Other	
	Occ	Non-occ	Occ	Non-occ	Occ	Non-occ	Occ	Non-occ	Occ	Non-occ
Applicator/Mixer/loader	110	0	74	0	77	1	39	0	34	0
Drift	43	33	78	41	25	9	44	29	8	7
Residue	33	0	34	4	38	3	27	2	10	4
Clean/fix	8	0	3	0	2	0	1	0	0	0
Other/unknown	11	4	7	5	2	6	6	0	1	3
	205	37	196	50	144	19	117	31	53	14

* Individuals frequently report more than one symptom.

** Limited to cases with illness classified by DOH as definitely, probably, or possibly due to pesticide exposure.

*** Refer to Table 14 for total number of cases by exposure activity/source.

The majority of agricultural cases (67%) had mild medical outcomes (Table 16). Thirty percent (133) experienced moderate symptoms and three percent had severe symptoms. All agricultural cases classified as severe were occupational: orchard workers (6), field workers (6), ornamental tree applicator (1), and irrigation technician (1). Seven exposures resulted from drift, five from inadequate personal protection during application, mixing or loading, one from residue exposure while thinning, and one from walking into a field during an application.

Table 16 Agricultural Case Severity Classification 1995 – 1999*

	02 Mild	03 Moderate	04 Severe	Total
1995	32	54	4	90
1996	68	28	1	97
1997	72	18	2	92
1998	71	25	6	102
1999	59	8	1	68
	302	133	14	449

* Limited to cases with illness classified by DOH as definitely, probably, or possibly due to pesticide exposure.

Agricultural Crops Involved

The 450 agricultural definite, probable or possible cases resulted from pesticide applications to fruit (263), field crops (108), nursery/greenhouses (29), berries (10), vegetables (8), livestock (6), forest (6), fire/flood/disaster (5), tree farms (2), and unknown (13).

Cases resulting from applications to fruit

The greatest number (263) of pesticide illnesses in agriculture occurred in the production of tree fruit with the majority (221) occurring occupationally. Pesticide activities of these cases were:

- 104 were applications (primarily ground applications), mixing and loading,
- 80 cases were attributed to drift,
- 56 field residues,
- 23 other.

The majority of cases occurred in the production of apples. Other tree fruits included pears, cherries, and apricots. Cases were classified mild (64%), moderate (34%) and severe (2%). Three of the severe cases related to drift, two to ground applications and one to residues.

Table 17 Agricultural Occupational and Non-occupational severity by Activity/Source associated with Fruit Production 1995 – 1999*

Activity/ Source	Occupational - Severity			Non-occupational - Severity			Total
	02 mild	03 moderate	04 severe	02 mild	03 moderate	04 severe	
Applicator/ mixer/loader	71	29	2	1	1	0	104
Drift	23	22	3	28	4	0	80
Residue	37	15	1	2	1	0	56
Accident	4	2	0	3	0	0	9
Other	6	6	0	1	1	0	14
	141	74	6	35	7	0	263

*Limited to cases with illness classified by DOH as definitely, probably, or possibly due to pesticide exposure.

Cases resulting from applications to field crops

One hundred and eight cases were due to pesticide application to field crops and 94 of the 108 were occupational. Field crops include wheat, barley, potatoes, beans, hops, hay, lentils, sugar beets, etc. Pesticide drift was the activity most frequently associated with pesticide illness, followed by the activities of applicators/mixer/loaders, residues, and accidents. Most (94%) of the cases occurring among field crop workers had mild or moderate symptoms. Six reported symptoms of greater severity. All 14 of the non-occupational cases related to field crops resulted from drift and most (13) had mild symptoms. The most frequently (81%) reported routes of exposure for occupational field crop cases were dermal and inhalation. Sixteen individuals reported eye exposure.

Table 18 Agricultural Occupational and Non-occupational Field Crop cases by Severity 1995 – 1999*

Activity/ Source	Occupational Severity			Non-occupational Severity			Total
	02 Mild	03 Moderate	04 Severe	02 Mild	03 Moderate	04 Severe	
Drift	13	23	4	13	1	0	54
Applicator/ mixer/loader	34	10	2	0	0	0	46
Residue	3	2	0	0	0	0	5
Accident	2	1	0	0	0	0	3
	52	36	6	13	1	0	108

**Limited to cases with illness classified by DOH as definitely, probably, or possibly due to pesticide exposure.*

Cases occurring in nurseries or greenhouses

From 1995 through 1999, 25 occupational incidents involving 29 cases (16 male and 13 female) occurred in nurseries or greenhouses. The majority (80%) occurred in Western Washington, with Skagit (5) and Snohomish (5) counties having the most cases.

Cases occurring in greenhouses and nurseries were due to exposure to residues (11), applications (7), drift (4), mixing or loading (3), cleaning or fixing equipment (2) and other (2). The majority of cases reported mild (79%) symptoms, 17 percent reported moderate symptoms, and one case reported severe symptoms. Like other agricultural cases, the routes of exposure were eye (9), inhalation (7), dermal (1), and ingestion (1). The remaining cases were combinations of exposure routes.

Non-Agricultural Pesticide Incidents 1995 – 1999

Overview

From 1995 through 1999, DOH received reports of 1080 individuals with suspected pesticide-related illness occurring in the non-agricultural environment (482 occupational and 598 non-occupational). Examples of non-agricultural reports are illnesses resulting from pesticide applications in office buildings, homes, industrial site, parks and landscaping. DOH classified 561 cases as definite (78), probable (213) and possible (270).

Occupational

Approximately half (482) of the non-agricultural pesticide-related reports occurred on-the-job. DOH classified 291 cases as pesticide-related, definite (40), probable (129) or possible (122). The following further describes these pesticide-related cases:

- 150 males and 141 females.
- One was 17 years old at the time of the incident.
- Sources of reports were: L&I (138), WPC (79), local health departments (28), health care provider (8), and others (38).
- 251(86%) individuals obtained medical care for their pesticide illness; 141 (56%) went to emergency rooms, 72 (29%) to physicians' offices, and 38 (15%) went to walk-in clinics. Two received advice from WPC and 37 did not seek medical care.
- The 291 cases occurred in 30 of the 39 counties of Washington State.

- Twice as many cases occurred in western Washington (198 (68%)) as in eastern Washington (93 (32%)).
- Forty- four percent occurred in the three counties of the Puget Sound region, King (69), Pierce (33), and Snohomish (25).
- In eastern Washington, the counties with the most cases were Yakima (24), Spokane (20), Grant (14) and Benton (13).

The most common sites for non-agricultural occupational pesticide illness were office buildings (132 (45%)), with approximately half resulting from commercial (69) applications and half non-commercial (63) applications (Table 19). Homes were the second-most frequently reported site. Cases in the home resulted from both commercial (39) and non-commercial (19) applications.

**Table 19 Site of Non-Agricultural Occupational Cases*
by Commercial or Non-Commercial application**

Site	Commercial application	Non Commercial Application	No application –indirect exposure	Total
Office buildings	69	63		132
Home/apartments	39	19		58
Industrial sites		20		20
Park/golf courses		7		7
Veterinary		4		4
Other			70	70
	108	113	70	291

**Limited to cases with illness classified by DOH as definitely, probably, or possibly due to pesticide exposure.*

Examples of “no application indirect exposure” include: waste collection worker exposed to a spill, thrift shop worker exposed to a spill, and a pesticide spill in a freight carrier. Of the 132 cases occurring in offices, 78 (59%) involved exposure to pesticide residues (Table 20). These cases resulted from indirect exposure to residues from pesticide applications made hours before the workspace was re-entered. Thirty-one (23%) cases in offices involved direct applications.

Fifty-eight occupational cases occurred in homes or apartments with 35 of these occurring during applications. Sixteen cases involved residue or drift exposure. Occupational cases (19) also occurred in the home when the application was made by a non-licensed individual (homeowner) and a worker such as a plumber or builder was exposed to pesticides at the residence.

**Table 20 Location of Occupational Cases*
by Type of Pesticide Application and Exposure**

	Office		Home		Other	Total
	Commercial	Non-Commercial	Commercial	Non-Commercial		
Residue	46	32	5	4	45	132
Application	9	22	24	11	23	89
Drift	11	5	6	1	5	28
Other	3	4	4	3	28	42
Total	69	63	39	19	101	291

**Limited to cases with illness classified by DOH as definitely, probably, or possibly due to pesticide exposure.*

Occupationally, males (60) were more likely to be involved in incidents from pesticide applications and females (66) from pesticide residue or drift. Inhalation was the most frequently reported route of exposure and occurred in 216 cases (74%). Other routes of exposure in pesticide illnesses were dermal, ocular and ingestion; 207 (71%) had one route of exposure and 83 (29%) had multiple routes of exposure.

Severity and Symptoms

The majority of cases, 235 (81%) was considered to have a mild medical outcome (Table 21). These cases frequently presented with eye irritation, headache, shortness of breath, cough and nausea. Fifty-five (19%) had moderate symptoms and one was severe. The pesticide exposure activities related to these cases were applications (22), cleaning/fixing (3), drift (6), residue (14), accident (8) and other (3). The severe case involved a licensed applicator that inadvertently allowed his gloves to become saturated with insecticide.

Table 21 Non-Agricultural Occupational Case Classification by Severity

Severity	Definite	Probable	Possible	Total
Mild	31	104	100	235
Moderate	9	24	22	55
Severe	0	1	0	1
	40	129	122	291

Non-Occupational

From 1995 through 1999, 598 individuals were involved in pesticide-related non-agricultural and non-occupational incidents. Of these, 270 cases were classified definite (38), probable (84) or possible (148). In addition:

- More women 132 (65%) than men 71 (35%) over the age of 17 were involved in pesticide illness.
- Sixty-seven (25%) cases involved children less than 18 years of age.
- Among childhood cases aged 11 through 17, twice as many were males (9) as females (5), but in the younger ages (less than age 11) gender was not a factor.
- Most of these cases came from King (54), Pierce (31), and Snohomish (22) counties in western Washington, and Spokane (25), Yakima (20) and Benton (15) counties in eastern Washington.
- The majority of non-occupational cases (223 (83%)) occurred in homes or apartments (Table 22).

Table 22 Source of pesticide exposure by location of non-agricultural and non-occupational cases*

Location	Residue	Drift	Applications	Other	Total
Home					
Commercial	38	8	2	3	51
Non-Commercial	20	11	101	40	172
Office					
Commercial	2	1	2	0	5
Non-Commercial	1	0	0	1	2
Industrial Site	0	7	2	0	9
Unknown/Other	6	1	0	24	31
Total	67	28	107	68	270

**Limited to cases with illness classified by DOH as definitely, probably, or possibly due to pesticide exposure.*

Route of Exposure

Most of the non-agricultural and non-occupational pesticide cases involved the individual making the application, either through exposure to the application (109 (40%)), or to residues (67 (25%)). Inhalation exposure was most frequently reported (173 (64%)).

Severity and Symptoms

Most (210 or 78%) of the cases were considered to have a mild medical outcome (Table 23). The five definite-severe and probable-severe cases occurred at home and involved three children and two adults. The activities associated with these exposures were two applications, a spill, an accident and ingestion of pesticide by a toddler.

Table 23 Non-Agricultural and Non-Occupational cases* by severity of symptoms

Severity	Definite	Probable	Possible	Total
Mild	27	64	119	210
Moderate	7	19	25	51
Severe	4	1	4	9
	38	84	148	270

**Limited to cases with illness classified by DOH as definitely, probably, or possibly due to pesticide exposure.*

SUMMARY OF 1995-1999 FINDINGS:

From 1995 through 1999, the Washington State Department of Health investigated 1,163 cases of pesticide illness in the **agricultural** environment. The following were found:

- 450 cases were classified as definite, probable or possible.
- 84% of cases were occupational.
- 97% reported mild or moderate symptoms (most frequently reported health complaints were eye irritation and systemic effects).
- Most incidents resulted from exposure during applications, pesticide drift or exposure to residues.
- The three most common locations of incidents were production of tree fruit (263), field crops (108) and nursery/greenhouses (29).

From 1995 through 1999, the Washington State Department of Health investigated 1,080 cases of pesticide illness in the **non-agricultural** environment. The following were found:

- 561 cases were classified as definite, probable or possible.
- 52% of cases were **occupational**.
- The three most common locations of non-agricultural and occupational cases were office buildings (132), homes (58) and industrial sites (20).
- 99% of individuals were found to have mild or moderate symptoms.
- The most frequently reported health complaints were eye irritation and systemic effects.
- Most cases resulted from exposure to pesticide residues, applications or drift.
- Inhalation was the most frequent route of exposure.
- 48% of cases were **non-occupational**.
- 83% occurred in and around the home.
- 97% reported mild or moderate symptoms (9 severe).

Department of Labor and Industries (L&I)

L&I responds to concerns from workers about pesticide exposure through two divisions: the Washington Industrial Safety and Health Act (WISHA) Services Division, and the Insurance Services Division, (Claims Administration). From 1995 through 1999, L&I WISHA conducted 156 pesticide-related health and safety workplace inspections, and Claims Administration received 1,154 claims relating to pesticide illness. In 1999, WISHA conducted 37 pesticide-related health and safety workplace inspections. Claims Administration received 183 claims relating to pesticide exposure. All of these were forwarded to DOH for investigation.

Health and Safety Investigations

Table 24 shows inspection location (Eastern vs. Western Washington), the number of inspections conducted and the total number and percent resulting in violation citations for the five-year period 1995-1999.

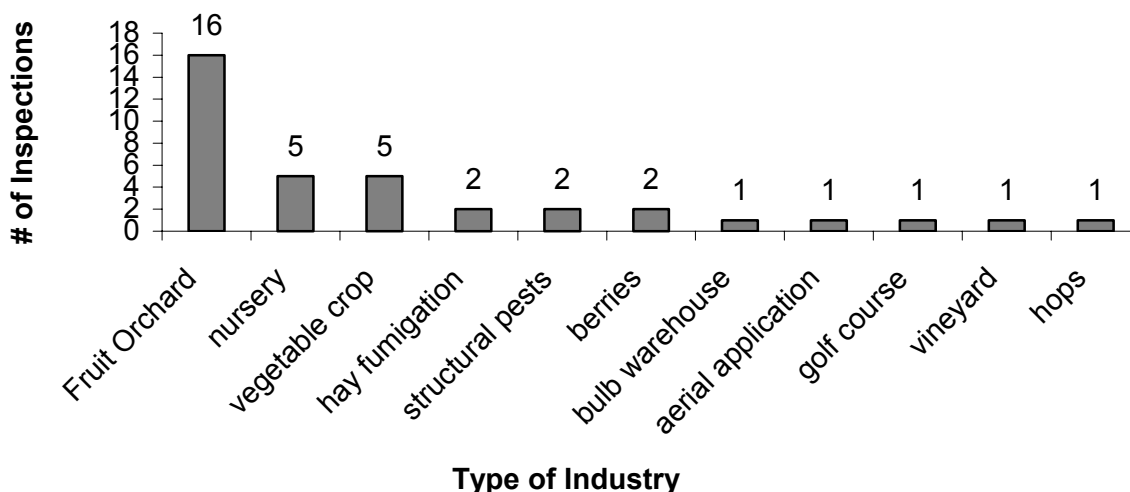
Table 24 1995 – 1999 Pesticide-related WISHA inspections

	Eastern Washington	Western Washington	Total Inspections	Inspections Resulting in Violations	% Inspections Resulting in Violations
1995	12	12	24	21	88%
1996	15	24	39	30	77%
1997	11	9	20	18	90%
1998	25	11	36	30	83%
1999	27	10	37	30	81%
Total	90	66	156	129	83%

WISHA Services Division inspections are initiated several ways: a scheduling system, complaints, referrals or observations as inspectors travel through their area. In 1999, twenty-seven pesticide-related inspections were conducted in Eastern Washington and 10 in Western Washington. The inspections were conducted in both agricultural and non-agricultural settings.

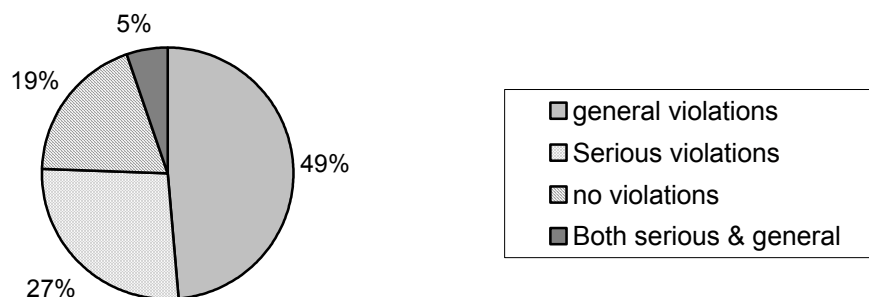
In 1999, sixteen inspections were initiated through the scheduling method. The remaining inspections were responses to complaints (11), referrals from other agencies (9) and inspector observation (1). Fruit orchards were the most frequent type of business inspected with sixteen inspections, followed by five inspections each for nurseries and vegetable crops, two for berries and one vineyard. Two inspections involved hay fumigation. Structural pesticide businesses were involved in two inspections. The rest had a single inspection for business type (bulb warehouse, hops, golf course, and an aerial applicator).

WISHA Pesticide Related Inspections - 37



A WISHA inspection may result in violations. Violations fall into two categories: serious or general. Serious implies a potential for death or serious physical harm from illness or a major injury and will have a monetary penalty. General violations are cited when a hazardous condition cannot reasonably be predicted to cause death or serious physical harm but has a direct relationship to employee safety and health. There is no monetary penalty for general violations. General violations are often used for written program deficiencies that could potentially lead to an injury or illness.

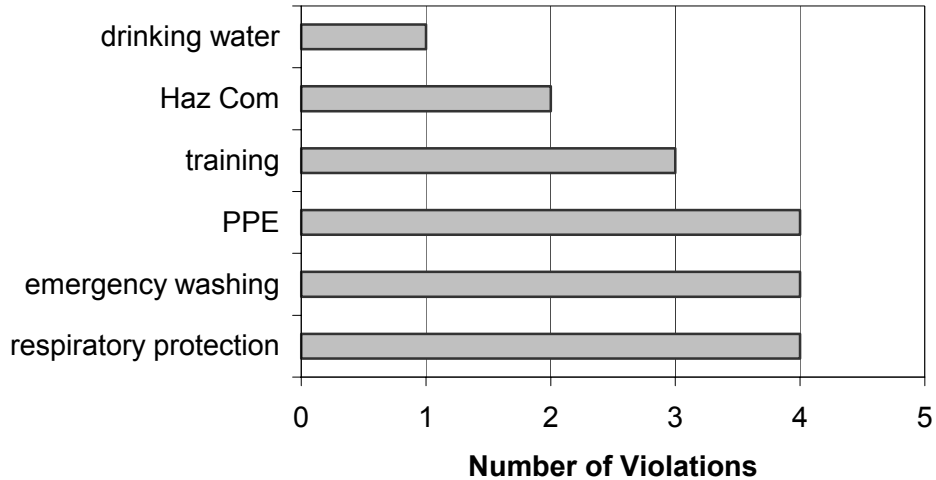
1999 WISHA Inspections Violations - 37 inspections



Twelve serious violations were identified in 37 pesticide-related inspections. Of these, six inspections had multiple serious violations and six had one serious violation. Penalties ranged from \$160 - \$4,000 per violation and totaled \$17,560. One inspection had a repeat serious violation resulting in a fine of \$4,000.

Circumstances that resulted in serious violations were deficiencies in respiratory protection (4 violations), personal protective equipment (4 violations), emergency eyewash and washing capabilities (4 violations), training (3 violations), hazard communication and labeling (2 violations), and lack of drinking water (1 violation).

Total Serious Violations Issued



The following general violations were issued:

- Inaccurate spray records (5 sites)
- No posting of information (3 sites)
- Respiratory protection deficiencies (2 sites)
- Hazard communication deficiencies (2 sites)
- Failure to make notification of an illness incident (2 sites)
- Inappropriate or lack of personal protective equipment (1 site)
- Deficiencies related to re-entry intervals (1 site)
- Lack of eyewash (1site)
- Failure to remove signs (1 site)
- No first aid card (1 site)

Claims Administration

The Claims Administration program processes worker claims initiated for on-the-job injuries and illnesses. Pesticide claims are referred to DOH for further investigation.

In 1999, DOH investigated 183 claims from L&I because of alleged pesticide exposures. DOH classified 130 (71%) of these claimants as working in agriculture and 53 (29%) in a non-agricultural setting. Forty-eight percent (88) of the claims involved workers in the fruit industry; 14 percent (25) in field crops. Table 25 lists claims by business type. DOH classified the severity of the claims: no symptoms (18), mild (139), moderate (25) and severe (1).

Table 25 1999 L&I Pesticide-Related Claimants by Business Type*

<i>Agricultural</i>	1996	1997	1998	1999
Fruit	116	129	134	88
Field crops	20	23	44	25
Vegetables	11	-	3	4
Nursery/greenhouse	8	6	16	7
Berries	4	-	2	2
Christmas trees/Forest	4	2	-	1
Other/Unknown	4	6	4	3
<i>Total Agricultural</i>	167 (75%)	166 (71%)	203 (75%)	130 (71%)
<i>Non Agricultural</i>				
Landscape/PCO	4	5	8	5
Maintenance/mgrs	7	9	7	3
Food service	4	3	-	4
Laboratory/Health Care	-	-	4	2
Office	6	23	5	8
Laborer	-	-	-	8
Landscape/groundskeeper	6	6	-	8
Security Guard	-	3	-	-
Re-packaging pesticides	8	-	-	-
Retail Store	4	6	15	2
Forklift operator	-	-	2	1
Sanitation/Road crew	-	-	4	2
Other	16	14	21	10
<i>Total Non-Agricultural</i>	55 (25%)	69 (29%)	66 (25%)	53 (29%)
Total L&I Claims Investigated by DOH	222	235	269	183

Claims status:

Table 26 shows the numbers of pesticide-related claims for 1995-1999 adjudicated in accordance with the following definitions:

- **Allowed:** A worker experienced symptoms that he/she believes occurred from exposure on-the-job and seeks medical evaluation. The physician finds the symptoms related to the exposure and there is objective evidence of injury. The claim is allowed and medical evaluation and any follow-up medical care/treatment is paid. The employee misses less than three days of work. These lost workdays are not reimbursed to the employee.
- **Rejected:** Initial diagnostic and evaluation medical costs are covered but the claim is rejected because objective evidence is lacking to relate the symptoms to the workplace exposure. Claims can be rejected because: the worker reports no symptoms; the symptoms have resolved by the time the evaluation is obtained; there is no objective evidence of injury; or, exposure cannot be confirmed or documented. A rejected status prevents the worker from re-opening a claim based on original symptoms. Initial medical visits are usually paid.
- **Compensable/Time Loss:** A worker has an allowable claim and misses more than three days of work immediately following an injury on the job. The worker is paid a portion of salary while unable to work. All related medical costs are covered. In 1999 11 workers received time loss compensation; 7 were employed in agriculture.
- **Kept On Salary:** The employer elects to pay the claimant's salary instead of L&I paying time loss payments while the employee is recovering from an injury or illness. In 1999 one non-agricultural worker was kept on salary.

Table 26 Pesticide-Related Claim Status 1995 – 1999

Claim Type	1995		1996		1997		1998		1999	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
Allowed	134	55%	97	44%	108	46%	155	58%	107	59%
Compensable/Time loss	9	4%	8	4%	14	6%	11	4%	11	6%
Kept of Salary	1	-	1	-	-	-	1	-	1	-
Rejected	98	40%	111	50%	101	43%	100	37%	63	34%
Pending/Unknown	3	1%	5	2%	12	5%	2	1%	1	-
Total	245		222		235		269		183	

In 1999, L&I paid out a total of \$48,935.01 for pesticide-related claims.

L&I Observations

Over the last five years, the number of WISHA safety and health inspections have varied. For 1998 and 1999, inspections were similar (36 & 37 respectively) and resulted in the same percent of inspections with violations. In 1999, insecticides were the pesticides most frequently identified during the inspections conducted. Over two-thirds of the 37 inspections documented one or more violations. The violations cited continue to occur in similar areas: hazard communication, respiratory protection, PPE, eyewash, etc.

The Environmental Protection Agency (EPA) has begun a national assessment of the Worker Protection Standard (WPS) in an attempt to address trends nationwide. WISHA is participating in the discussion along with grower organizations and employee advocates. A final meeting on the subject is scheduled to occur in Washington DC, 2002.

In 1999, there was a 32 percent reduction in pesticide-related workers' compensation claims. Since 1996, there has been a steady increase in the percentage of pesticide-related claims allowed. In 1996, there was an all-time high rejection rate of 50 percent; in 1999 34 percent were rejected. A very small percent of pesticide-related claims result in time loss.

Washington Poison Center

In 1999, the Washington Poison Center (WPC) received 133,240 calls. Of these, 2,523 were calls related to human pesticide exposure and accounted for two percent of the total calls received statewide by WPC (Table 27). As in previous years, the vast majority (93%) of pesticide-related calls to WPC involved accidental exposure. Informational calls are not tallied as part of the human exposure calls.

From 1990 to 1999 there was a 50 percent reduction in calls related to pesticide exposure to the Poison Center (5,231 pesticide-related calls in 1990 to 2,523 in 1999). Many factors including increased education, growth of information available on the internet, awareness of risks, and elimination of more toxic pesticides appear to explain this decrease. Table 27 shows the number of pesticide-related calls to WPC from 1995-1999 by pesticide type.

Table 27 WPC Human Pesticide Exposure Calls 1995 – 1999

Pesticide	1995	1996	1997	1998	1999
Fungicide	104	120	88	72	61
Herbicide	531	441	482	485	425
Insecticide	2,173	1,992	2,103	1,886	1,562
Moth Repellent	89	66	77	65	76
Rodenticide	478	473	477	478	399
Total Pesticide	3,375	3,092	3,227	3,002	2,523
% of Total WPC Calls	2%	2%	2%	2%	2%
Total WPC Calls*	135,621	132,649	134,213	134,60	133,240

**Includes human and animal exposures, confirmed non-exposures, and informational calls.*

Insecticides are the type of pesticide most frequently involved in calls. Table 28 lists the types of insecticides involved in calls to WPC, 1995 - 1999.

Table 28 1995 – 1999 WPC Type of Insecticide involved in Poisoning Call

Insecticides Generic Code/Description	Number of Calls				
	1995	1996	1997	1998	1999
Arsenic	5	7	5	5	10
Borates/Boric Acid	38	27	32	32	20
Carbamate Only	104	61	91	64	65
Carbamate with other pesticides	51	24	15	8	18
Chlorinated Hydrocarbon only	125	125	130	104	72
Chlorinated Hydrocarbon with other	3	8	3	6	3
Metaldehyde	67	76	80	48	36
Organophosphate only	450	360	395	372	267
Organophosphate with carbamate	29	15	17	14	11
Organophosphate with chlorinated hydrocarbons	16	9	4	12	3
Organophosphate with other pesticide	46	44	32	35	33
Organophosphate/carbamate/chlorinated hydrocarbons	0	0	1	2	0
Piperonyl butoxide only	3	5	3	1	2
Piperonyl butoxide/pyrethrins	282	323	306	266	239
Pyrethrins only	249	253	267	262	235
Repellants (insect)	169	144	154	130	107
Rotenone	6	3	5	2	3
Veterinary insecticide	200	179	277	215	194
Other	112	128	89	92	69
Unknown	217	200	197	216	174
Total	2,173	1,992	2,103	1,886	1,562

In Washington State pesticide poisonings are a reportable condition (WAC 246-100-217). Health care providers can report to DOH or through the WPC. WPC forwards to DOH all calls regarding patients exposed to pesticides seen by any health care provider. Also, if WPC refers a caller to a health care provider that call is forwarded to DOH.

In 1999, DOH received 149 referrals from WPC where there were reported signs and/or symptoms of pesticide illness, or cases of probable pesticide exposure that were followed for development of symptoms. Of these, 78 did not meet the DOH criteria for investigation in that exposure occurred more than 3 months ago, no exposure-health effect relationship was present, or there was insufficient information to substantiate the pesticide exposure. DOH classified the remaining 71 incidents involving 83 individuals: definite (12), probable (12), possible (13), unlikely (23), unrelated (2), unknown (15), and asymptomatic (6) (pesticide exposure was confirmed but the individual exhibited no symptoms). The majority of these cases had mild or no symptoms (69 (83%)), 10 had moderate symptoms (12%), and 4 had severe symptoms (3%).

Forty-one percent of the WPC pesticide calls in 1999 involved children less than six years of age. Table 29 illustrates WPC calls by pesticide type for the different age groups. Insecticides continued to be the type of pesticide most frequently involved (62%). This distribution is consistent with prior years.

Table 29 1999 WPC Human Pesticide Exposure Calls by Age

Pesticide Type	Less than 6 years old	6-19 years old	Total Human Exposure Calls
Fungicides	16	9	61
Herbicides	122	65	425
Insecticides	566	266	1,562
Moth Repellents	33	11	76
Rodenticides	304	33	399
Total	1,041	384	2,523

In 1999, three percent of the WPC pesticide calls involved intentional exposures. Fourteen percent of all calls resulted in some form of management in a health care facility and two percent of all calls reported a moderate or more severe illness from the event. Table 30 shows the decrease in numbers and severity of pesticide exposure calls to WPC for advice and management from 1995 through 1999.

Table 30 WPC Human Pesticide Exposure Calls 1995-1999 by Types of Exposure and Health Outcome

	1995	1996	1997	1998	1999	Change 1995-1999
Type of exposure						
Accidental	3122	2866	2969	2813	2346	-25%
Intentional	106	89	109	79	73	-31%
Managed in Health Care Facility*	582	522	549	542	350	-40%
Health Effect*						
- Minor Effect	343	345	279	242	171	-50%
- Moderate Effect	104	86	84	54	40	
- Major Effect	5	0	2	3	10	54%
- Death	0	1	0	0	0	
Total Pesticide Calls	3,375	3,092	3,227	3,002	2,523	-25%

* Cases classified as "Managed in Health Care Facility" and "Health Effect" may include intentional cases.

Appendix A

Pesticide Incident Reporting and Tracking (PIRT) Review Panel:

- **RCW 70.104.070-090**
- **List of PIRT Panel Members**
- **Pesticide Incident Definition**
- **Agency Roles and Responsibilities**
- **Agency Response Time Mandates**

Pesticides - Health Hazards

RCW 70.104.070 Pesticide incident reporting and tracking review panel -- Intent. The legislature finds that heightened concern regarding health and environmental impacts from pesticide use and misuse has resulted in an increased demand for full-scale health investigations, assessment of resource damages, and health effects information. Increased reporting, comprehensive unbiased investigation capability, and enhanced community education efforts are required to maintain this state's responsibilities to provide for public health and safety.

It is the intent of the legislature that the various state agencies responsible for pesticide regulation coordinate their activities in a timely manner to ensure adequate monitoring of pesticide use and protection of workers and the public from the effects of pesticide misuse.

[1989 c 380 § 67.]

Severability -- 1989 c 380: See RCW 15.58.942.

RCW 70.104.080 Pesticide panel -- Generally.

(1) There is hereby created a pesticide incident reporting and tracking review panel consisting of the following members:

(a) The directors, secretaries, or designees of the departments of labor and industries, agriculture, natural resources, fish and wildlife, and ecology;

(b) The secretary of the department of health or his or her designee, who shall serve as the coordinating agency for the review panel;

(c) The chair of the department of environmental health of the University of Washington, or his or her designee;

(d) The pesticide coordinator and specialist of the cooperative extension at Washington State University or his or her designee;

(e) A representative of the Washington poison control center network;

(f) A practicing toxicologist and a member of the general public, who shall each be appointed by the governor for terms of two years and may be appointed for a maximum of four terms at the discretion of the governor. The governor may remove either member prior to the expiration of his or her term of appointment for cause. Upon the death, resignation, or removal for cause of a member of the review panel, the governor shall fill such vacancy, within thirty days of its creation, for the remainder of the term in the manner herein prescribed for appointment to the review panel.

(2) The review panel shall be chaired by the secretary of the department of health, or the secretary's designee. The members of the review panel shall meet at least monthly at a time and place specified by the chair, or at the call of a majority of the review panel.

[1994 c 264 § 41; 1991 c 3 § 363; 1989 c 380 § 68.]

Severability -- 1989 c 380: See RCW 15.58.942.

RCW 70.104.090 Pesticide panel -- Responsibilities.

The responsibilities of the review panel shall include, but not be limited to:

(1) Establishing guidelines for centralizing the receipt of information relating to actual or alleged health and environmental incidents involving pesticides;

(2) Reviewing and making recommendations for procedures for investigation of pesticide incidents, which shall be implemented by the appropriate agency unless a written statement providing the reasons for not adopting the recommendations is provided to the review panel;

(3) Monitoring the time periods required for response to reports of pesticide incidents by the departments of agriculture, health, and labor and industries;

(4) At the request of the chair or any panel member, reviewing pesticide incidents of unusual complexity or those that cannot be resolved;

(5) Identifying inadequacies in state and/or federal law that result in insufficient protection of public health and safety, with specific attention to advising the appropriate agencies on the adequacy of pesticide reentry intervals established by the federal environmental protection agency and registered pesticide labels to protect the health and safety of farmworkers. The panel shall establish a priority list for reviewing reentry intervals, which considers the following criteria:

(a) Whether the pesticide is being widely used in labor-intensive agriculture in Washington;

(b) Whether another state has established a reentry interval for the pesticide that is longer than the existing federal reentry interval;

(c) The toxicity category of the pesticide under federal law;

(d) Whether the pesticide has been identified by a federal or state agency or through a scientific review as presenting a risk of cancer, birth defects, genetic damage, neurological effects, blood disorders, sterility, menstrual dysfunction, organ damage, or other chronic or subchronic effects; and

(e) Whether reports or complaints of ill effects from the pesticide have been filed following worker entry into fields to which the pesticide has been applied; and

(6) Reviewing and approving an annual report prepared by the department of health to the governor, agency heads, and members of the legislature, with the same available to the public. The report shall include, at a minimum:

(a) A summary of the year's activities;

(b) A synopsis of the cases reviewed;

(c) A separate descriptive listing of each case in which adverse health or environmental effects due to pesticides were found to occur;

(d) A tabulation of the data from each case;

(e) An assessment of the effects of pesticide exposure in the workplace;

(f) The identification of trends, issues, and needs; and

(g) Any recommendations for improved pesticide use practices.

[1991 c 3 § 364; 1989 c 380 § 69.]

Effective date -- 1989 c 380 §§ 69, 71-73: "Sections 69 and 71 through 73 of this act shall take effect on January 1, 1990."

[1989 c 380 § 90.]

Severability -- 1989 c 380: See RCW 15.58.942.

Pesticide Incident Reporting and Tracking (PIRT) Review Panel Members

Maryanne Guichard, Chair

Pesticide Incident Reporting and Tracking Review Panel
Department of Health
7171 Cleanwater Lane, Bldg. 4 (ZIP: 98501)
P.O. Box 47825
Olympia, WA 98504-7825
p: (360) 236-3391 f: (360) 236-2257
e-mail: maryanne.guichard@doh.wa.gov

Lynden Baum, Manager

Pesticide and Surveillance Section
DOH - Office of Toxic Substances
7171 Cleanwater Lane, Bldg. 4 (ZIP: 98501)
P.O. Box 47825
Olympia, WA 98504-7825
p: (360) 236-3361 f: (360) 236-2257
e-mail: lynden.baum@doh.wa.gov

Lucio G. Costa, Ph.D.

Department of Environmental Health
University of Washington
4225 Roosevelt #100
Seattle, WA 98105
p: (206) 543-2831 f: (206) 685-4696
e-mail: lgcosta@u.washington.edu MS: 354695

Allan Felsot, Ph.D.

Food and Environmental Quality Lab
Washington State University-Tri Cities
100 Sprout Road
Richland, WA 99352
p: (509) 372-7365 f: (509) 372-7460
e-mail: afelsot@tricity.wsu.edu

Matthew Keifer, MD, MPH

Department of Environmental Health
School of Public Health and Community Medicine
University of Washington
Box 357234
Seattle, WA 98195
MS: 357234
p: (206) 616-1452 f: (206) 616-2687
e-mail: mkeifer@u.washington.edu

Alice Larson, Ph.D.

Work Group on Pesticide Health & Safety
P.O. Box 801
Vashon Island, WA 98070
p: (206) 463-9000 f: (206) 463-9400
e-mail: las@wolfenet.com

Jane C. Lee, MPH, Coordinator

Pesticide Incident Reporting and Tracking Review Panel
Department of Health
7171 Cleanwater Lane, Bldg. 4 (ZIP: 98501)
P.O. Box 47825
Olympia, WA 98504-7825
p: (253) 395-5427 f: (425) 453-1340
e-mail: jane.lee@doh.wa.gov

Janet Kurina

Department of Labor and Industries
P.O. Box 44610
Olympia, WA 98504-4610
MS: 4610
p: (360) 902-4613 f: (360) 902-5478
kuri235@lni.wa.gov

John Ridgway/Maria Victoria Peeler

Department of Ecology
PO Box 47659
Olympia, WA 98504-7659
MS: 47600
p: (360) 407-6713/407-6704 f: (360) 407-6715
email: jrid461@ecy.wa.gov/peel461@ecy.wa.gov

William O. Robertson, MD

Medical Director, Washington Poison Center
155 NE 100th Street, 400
Seattle, WA 98125-8012
p: (206) 517-2356 f: (206) 526-8490
email: robertso@wapc.org

John Carleton

Department of Fish and Wildlife
600 Capitol Way N
Olympia, WA 98501-1091
MS: 43200
p: (360) 902-2622 f: (360) 902-2946
e-mail: carlejpc@dfw.wa.gov

Ann Wick, Program Manager

Program Development
WSDA - Pesticide Management Division
P.O. Box 42589
Olympia, WA 98504-2589
MS: 42589
p: (360) 902-2051 f: (360) 902-2093
e-mail: awick@agr.wa.gov

Vacant-Department of Natural Resources

9/28/2001

PESTICIDE INCIDENT REPORTING AND TRACKING (PIRT) REVIEW PANEL

PESTICIDE INCIDENT DEFINITION

A pesticide incident includes:

- Documented or suspected human cases of pesticide poisoning reported by health care providers as stated in WAC 246-100.
- Suspected pesticide poisoning of animals that may relate to human illness.
- Cases of human exposure where there is concern, but no medical evidence to substantiate a pesticide poisoning.
- Emergencies relating to pesticides that represent an imminent and/or future hazard to the public and/or labor force due to the toxicity of the material, the quantities involved, or the environment in which the incident occurs.
- Documented impacts to the environment including ground, surface water or soil contamination, crop or other resource damage due to the use or misuse of pesticides.
- Violations of worker protection-related to pesticide use.
- Property loss or damage from the use or application of any pesticide.

A pesticide incident appropriate for review by the PIRT Panel includes a case or situation where information received by Departments such as Agriculture, Health, or Labor and Industries indicates that the use of a pesticide may be related to a current or future threat to the public health and welfare.

A pesticide incident appropriate for resolution by the PIRT Panel is any case described above for which unresolved issues remain after agencies have conducted investigations. Incidents concerning human health are given top priority.

Adopted April 19, 1990

Contact: Lynden Baum, Manager
Pesticide and Surveillance Section
(360) 236-3361

Primary Agency Responsibilities Related to Pesticide Exposure

Washington State Department of Agriculture

The Washington State Department of Agriculture (WSDA) is responsible for protection of health, welfare, and the environment under authority of the Pesticide Control Act and the Pesticide Application Act. These laws give the department the authority to regulate the handling, transportation, storage, distribution, use, and disposal of pesticides and their containers. WSDA administers the Federal Insecticide, Fungicide, and Rodenticide Act and the state pesticide laws. In administering these programs, WSDA:

- adopts and administers pesticide regulations including state pesticide registration;
- tests and certifies pesticide applicators;
- administers continuing education requirements for pesticide applicators; and,
- investigates complaints of pesticide misuse or misapplication.

Department of Health

The Department of Health (DOH) is responsible for carrying out rules and regulations adopted by the State Board of Health for the purposes of protecting and enhancing public health and welfare. This includes the determination and documentation of health effects resulting from pesticide poisonings and exposures, and delineation of public health risks. The major elements of DOH's Pesticide and Surveillance Section set forth in RCW 70.104.030 include:

- Conduct medical investigations of suspected human pesticide poisonings and those animal poisonings that may relate to human illness.
- Provide technical assistance regarding health effects and risks of pesticides to health care providers, other agencies, and individuals.
- Provide community information regarding health effects of pesticide exposure.
- Secure and provide for analysis of environmental samples or human and animal tissues to determine the nature and cause of any suspect case of pesticide poisoning.
- Establish, chair, and staff the multi-agency Pesticide Incident Reporting and Tracking review Panel (PIRT).
- Establish pesticide illness/exposure reporting mechanisms to be used by health care providers.
- Develop a program of medical education for physicians and other health care providers regarding pesticide poisonings.

Department of Ecology

The Department of Ecology (Ecology) is responsible for protection of public health and the environment, particularly under these jurisdictions: Chapter 90.48 RCW, Water Pollution Control; Chapter 70.105D RCW, Hazardous Management Act; Chapter 70.105D RCW, Model Toxics Control; and, Chapter 70.94 RCW, Washington Clean Air Act. The following elements apply to pesticide incidents.

- Protect wetlands, shorelands, and water including control and prevention of pollution from pesticide activities.
- Implement an aquatic pesticide application permit system.
- Administer a regulatory and education program directed at proper management and disposal of pesticide wastes.
- Investigate and enforce remediation of incidents involving spills or environmental contamination by pesticides.
- Provide educational and technical assistance to make voluntary compliance with environmental laws easier.

Department of Labor and Industries

The Department of Labor and Industries (L&I), the Division of Industrial Safety and Health, administers the Washington Industrial Safety and Health Act of 1973, Chapter 49.17 RCW. L&I has primary responsibility for ensuring that employers provide safe and healthful working conditions for every worker in Washington State at a level which is at least as effective as the Federal Occupational Safety and Health Act of 1970. In administering Chapter 49.17 RCW, L&I:

- conducts safety and health workplace inspections in agriculture and industry;
- promulgates workplace safety and health standards;
- investigates employee complaints;
- provides employers information and consultation; and,
- conducts training and education programs.

L&I also focuses on hazardous chemicals through administration of the Worker Right to Know Law, Chapter 49.70 RCW, and administers the Workers Compensation Program, Title 51 RCW, through the Division of Industrial Insurance.

Department of Natural Resources

The Department of Natural Resources administers the Forest Practices Rules and Regulations, WAC 222. Section 38 of WAC 222 pertains to forest chemicals including pesticides and fertilizers. These regulations are written to protect timber resources, fish, and wildlife from the misuse or misapplication of forest chemicals. The elements of the program that apply to pesticides involve issuing permits for pesticide applications in forests and monitoring permit restrictions.

Agency Response Time Mandates

Washington State Department of Agriculture

WAC 16-228-233 directs the Washington State Department of Agriculture to respond to complaints involving humans or animals immediately. All other complaint investigations must be initiated within 48 hours.

Department of Health

WAC 246-100-217 directs the Department of Health (DOH) to respond to incidents within time periods based on severity. In the event of a pesticide-related hospital admission, death, or a threat to public health, DOH must respond within 24 hours. For all other cases, DOH must respond within 48 hours after notification.

Labor and Industries

The Department of Labor and Industries (L&I) response times are mandated in the Federal Occupational Safety and Health Act operations manual. Serious complaints require response within 30 days; all others within 120 days. The goal of the L&I Consultation and Compliance Services Division is to respond to serious complaints within 15 days; all others within 30 days. Response is defined as a site visit, not a telephone call.

April 6, 1998

Appendix B

PIRT Agendas

PIRT MEETING

PESTICIDE INCIDENT REPORTING AND TRACKING REVIEW PANEL

STATE PUBLIC HEALTH LAB
1610 NE 150TH STREET
SEATTLE, WASHINGTON

Thursday February 17, 2000
Room S-4

10:00 am to 12:00 pm

AGENDA

10:00	Welcome Agenda Overview Review November and December 1999 Meeting Overview	M. Guichard
10:05	Legislative Update	M. Guichard
10:20	PIRT Panel Activities Report on action items <ul style="list-style-type: none">• 2000 Panel Work Plan• Legislative motion made by Bill Robertson• Update on 5 Year data analysis• Update of 1999 Annual Report	M. Guichard Jane Lee
10:45	Present data on incidents occurring in commercial establishments, the products involved and whether the label instructions were adequate. (#3 of the 2000 Recommendations)	Ann Wick Lynden Baum
11:20	Identify specific pesticide products and their active ingredients involved in incidents for further evaluation. (#2 of the 2000 Recommendations)	All
11:40	Public Comment	
11:50	Other Business <ul style="list-style-type: none">• Next meeting agenda items	
12:00	Adjourn	

PIRT MEETING

PESTICIDE INCIDENT REPORTING AND TRACKING REVIEW PANEL

STATE PUBLIC HEALTH LAB
1610 NE 150TH STREET
SEATTLE, WASHINGTON

Thursday April 20, 2000
Room S-4

10:00 am to 12:00 pm

AGENDA

10:00	Welcome Agenda Overview Review February Meeting Summary	M. Guichard
10:10	Idaho applicator fatality – case study	Jim Baker (by phone)
10:30	PIRT Panel Activities Report on action items <ul style="list-style-type: none">• Legislative Update• 1999 Draft Annual Report	M. Guichard Jane Lee
11:00	Discussion of additional PIRT Tasks – Pesticide Use Reporting	M. Guichard
11:15	Follow-up – DOH review of incidents occurring in commercial establishments	Lynden Baum
11:30	RCW 70.104.070-090 revisions	M. Guichard
11:40	Other Business <ul style="list-style-type: none">• Next meeting agenda items• DOH Grant proposal to NIOSH	 Lynden Baum
11:45	Public Comment	
12:00	Adjourn	

PIRT MEETING

PESTICIDE INCIDENT REPORTING AND TRACKING REVIEW PANEL

STATE PUBLIC HEALTH LAB
1610 NE 150TH STREET
SEATTLE, WASHINGTON

Thursday May 18, 2000
Room Q-20

10:00 am to 12:00 pm

AGENDA

10:00	Welcome Agenda Overview Review April Meeting Summary	M. Guichard
10:10	PIRT Panel Activities Report on action items <ul style="list-style-type: none">• Legislative Update• 1999 Draft Annual Report• Review PIRT's workplan	M. Guichard Jane Lee
10:30	Pesticide Use Reporting <ul style="list-style-type: none">• Outline of issues• What's happening in California and Oregon• What role does PIRT want?	M. Guichard Allan Felsot
11:40	Other Business <ul style="list-style-type: none">• Next meeting agenda items• EPA Press release 60 day comment period on indoor residential insecticide product labeling• Update on Asian Gypsy Moth control	Lynden Baum
11:45	Public Comment	
12:00	Adjourn	

PIRT MEETING

PESTICIDE INCIDENT REPORTING AND TRACKING REVIEW PANEL

STATE PUBLIC HEALTH LAB
1610 NE 150TH STREET
SEATTLE, WASHINGTON

Thursday June 15, 2000
Room S-4

1:00 pm to 3:00 pm (Please note new time)

AGENDA

1:00	Welcome Agenda Overview Review May Meeting Summary	Maryanne Guichard
1:10	PIRT Panel Activities Report on action items • 1999 Draft Annual Report	Maryanne Guichard
1:35	Pesticide Use Reporting Plan joint meeting with the Pesticide Advisory Board November 2000	Maryanne Guichard
2:35	Other Business • Next meeting agenda items • Summary of Asian Gypsy Moth control 2000	Lynden Baum
2:50	Public Comment:	
3:00	Adjourn	

