

**OREGON OSHA
PESTICIDE EMPHASIS PROGRAM
ANNUAL REPORT
Federal Fiscal Year 2012**



Photo: 1999. M.J. Weaver. www.pesticidepics.org

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Introduction:

Oregon OSHA (OR-OSHA) and the United States Environmental Protection Agency (EPA), Region 10 Pesticides and Toxics Unit, have worked together on pesticide safety issues since 1993. OR-OSHA enforces the Worker Protection Standard, which is supplemented with a pesticide emphasis program. The Pesticide Emphasis Program has been in effect since 2000. This report is the annual review of the pesticide emphasis program for federal fiscal year 2012 (FFY 2012). The data elements and analysis are presented, along with recommendations for program improvements for the coming year.

Data Elements:

The data elements examined in this report are based on OR-OSHA's Program Directive A-235, entitled "Local Emphasis Program for Pesticides." Inspections were completed from a programmed list selected from the following list of North American Industrial Classification System (NAICS) codes which will be referred to as "selected NAICSs" for the purposes of this report.

NAICS 111998 General Farming, Field Crops, except Cash Grains, Not Elsewhere Classified
NAICS 111339 Deciduous Tree Fruits
NAICS 111421 Nursery & Tree Production
NAICS 111422 Floriculture Production
NAICS 115112 Crop preparation including pesticide spraying

Other NAICSs inspected as a result of complaints, referrals or programmed Agricultural Health inspections are included in this report if the inspection addressed pesticide-related issues.

This report also looks at Oregon OSHA's involvement with pesticide cases reported to the Pesticide Analytical Response Center (PARC) and outreach activities, including public education and speaker requests, and consultations.

Data Summary:

Pesticide exposures occur throughout the handling process, from purchase to disposal. The goal of the Pesticide Emphasis Program is to reduce occupational exposures to pesticides in agriculture through enforcing the pesticide-related standards such as the Worker Protection Standard, Hazard Communication, Respiratory Protection, Pesticide Storage, Fumigation and supervision of employees. Implementation of these requirements can reduce the likelihood of exposures resulting in acute or chronic effects.

The following is a brief summary of the findings resulting from the evaluation of FY2012 activity. Please see each section for tables and explanations of each.

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- ◆ **Inspection Activity:** In FY2012, 92 inspections were done, with 76 inspections resulting in citations, and covering 2,122 workers. Citations were issued in 83% of the inspections completed. The Worker Protection Standard (WPS) was applicable in 77 inspections, indicated by either Tier 1 or Tier 2 in the table below. WPS Tier 1 inspections accounted for 70% (65/92) of the pesticide emphasis inspections, and 13% (12/92) were Tier 2. For all WPS inspections, 84% (65/77) were classified as Tier 1.

In the selected NAICS, 66 inspections were done, with citations issued in 56 cases. The WPS was applicable in 63 inspections.

Statistics for Completed Inspections by Industry (NAICS), FFY 2012

Industry (NAICS)		Completed inspections	Citation issued	In compliance	Percent with citation issued	Percent in compliance	WPS Tier 1*	WPS Tier 2**	Pesticide Emphasis, Non-WPS	Employees covered
Selected NAICS	111339	14	13	1	92.9	7.1	13	-	1	310
	111421	27	23	4	85.2	14.8	21	6	-	940
	111422	7	6	1	85.7	14.3	6	-	1	137
	111998	16	12	3	80.0	20.0	12	2	1	269
	115112	3	2	1	66.7	33.3	3	-	-	68
	<i>Totals</i>	<i>66</i>	<i>56</i>	<i>10</i>	<i>84.8</i>	<i>15.1</i>	<i>55</i>	<i>8</i>	<i>3</i>	<i>1,724</i>
Other NAICS	111219	6	6	-	100.0	-	4	2	-	43
	111332	1	1	-	100.0	-	1	-	-	2
	111334	3	2	1	66.7	33.3	2	1	-	142
	111335	1	-	1	-	100.0	-	-	1	2
	113210	1	-	1	-	100.0	-	1	-	40
	115114	2	1	1	50.0	50.0	-	-	2	6
	238160	1	1	-	100.0	-	-	-	1	9
	325412	1	-	1	-	100.0	-	-	1	25
	424910	1	1	-	100.0	-	-	-	1	7
	444220	3	3	-	100.0	-	2	-	1	62
	493130	1	1	-	100.0	-	-	-	1	2
	541690	1	1	-	100.0	-	1	-	-	4
	561710	2	1	1	50.0	50.0	-	-	2	32
	561730	2	2	-	100.0	-	-	-	2	22
	<i>Totals</i>	<i>26</i>	<i>20</i>	<i>6</i>	<i>76.9</i>	<i>23.1</i>	<i>10</i>	<i>4</i>	<i>12</i>	<i>398</i>
	Grand Totals		92	76	16	82.6	17.4	65	12	15

*Tier 1 Inspections: Pesticides used within the preceding 30 days plus the restricted entry interval

**Tier 2 Inspections: Pesticides NOT used within the preceding 30 days plus the restricted entry interval.

Source: Information Management Division, Oregon Department of Consumer and Business Services, December 2012

Based on the types of inspections listed below, 67% (62/92) were programmed planned and 80% (50/62) of these were completed in the selected NAICS.

Attempted and completed inspections by inspection type and industry (NAICS), FFY 2012

Inspection type	Total	Selected NAICS					*Other NAICS
		111339	111421	111422	111998	115112	
Total completed inspections	92	14	27	7	16	3	25
Complaint	9	1	2	1	1	-	4
Referral	8	1	-	1	-	1	5
Follow-up	2	-	-	1	-	-	1
Unprogrammed Related	2	-	-	-	-	1	1
Programmed Planned	62	12	25	4	8	1	12
Programmed Related	9	-	-	-	7	-	2
Attempted (triple zero)	12	4	3	1	3	-	1

*Other NAICS include: 111219, 111332, 111334, 111335, 113210, 115114, 238160, 325412, 424910, 444220, 493130, 541690, 561710, and 561730.

Source: Information Management Division, Oregon Department of Consumer and Business Services, December 2012

◆ **Violation characteristics:** The following table highlights the distribution of violations. In FY2012, there were 388 violations cited with penalties totaling \$9,985. In the selected NAICS, 294 violations were cited with penalties totaling \$5,800. WPS violations accounted for 46% (136/294) of those violations with penalties totaling \$2,295. Pesticide-related and other violations accounted for 158 violations with penalties totaling \$3,505. Pesticide-related violations include the Oregon OSHA standards addressing hazard communication, respiratory protection, emergency eyewash, supervision, pesticide storage and fumigation.

Pesticide Violations and Penalties in FFY 2012

Industry (NAICS)		Total violations	WPS Violations				Pesticide Related / Other Violations			
			Serious	Other than serious	Repeat	Total penalties	Serious	Other than serious	Repeat	Total penalties
Selected NAICS	111339	80	6	30	-	\$400	8	36	-	\$825
	111421	115	2	51	-	\$330	20	42	-	\$1,645
	111422	42	-	16	-	\$0	3	23	-	\$200
	111998	48	6	19	1	\$585	10	12	-	\$655
	115112	9	4	1	-	\$980	3	1	-	\$180
	<i>Totals</i>	<i>294</i>	<i>18</i>	<i>117</i>	<i>1</i>	<i>\$2,295</i>	<i>44</i>	<i>114</i>	<i>0</i>	<i>\$3,505</i>
Other NAICS	111219	24	-	10	-	\$0	2	12	-	\$220
	111332	10	4	-	-	\$300	6	-	-	\$100
	111334	11	1	6	-	\$400	3	1	-	\$165
	115114	5	-	-	-	-	3	2	-	\$100
	238160	2	-	-	-	-	-	1	1	\$200
	424910	9	-	-	-	-	8	1	-	\$1,025
	444220	18	-	5	-	\$0	8	5	-	\$765
	493130	2	-	-	-	-	2	-	-	\$250
	541690	4	4	-	-	\$150	-	-	-	-
	561710	4	-	-	-	-	2	2	-	\$360
	561730	5	-	-	-	-	1	4	-	\$150
	<i>Totals</i>	<i>94</i>	<i>9</i>	<i>21</i>	<i>0</i>	<i>850</i>	<i>35</i>	<i>28</i>	<i>1</i>	<i>3,335</i>
Grand Totals		388	27	138	1	\$3,145	79	142	1	\$6,840

Source: Information Management Division, Oregon Department of Consumer and Business Services, December 2012

If a WPS violation is grouped with another violation, the WPS and non-WPS violations are counted separately, but the penalty amount for the whole group is retained with the WPS violation.

The WPS violations are categorized between handler and worker with the issues identified for each group. Central posting, decontamination hazard communication with appropriate control measures and training were cited for both groups. PPE, including the use of respirators, were deficiencies found often with handlers.

Pesticide Violations Cited in FFY 2012

Violation type		Violations
Handler related	Central posting	16
	Decontamination	18
	Emergency eyewash	8
	Hazard communication	54
	Label specific	3
	PPE - Other	35
	PPE - Respirators	74
	Pesticide storage	27
	Training	14
	Thiram	6
	Restrictions during applications	1
	Fumigants	1
	Notification to contractors	10
Worker related	Central posting	39
	Decontamination	6
	Health haz control measures	4
	Notification to workers	5
	Safe practices	8
	Training	20
Other	Other	11

Source: Information Management Division, Oregon Department of Consumer and Business Services, December 2012

◆ **Pesticide Analytical Response Center Cases:** There were more than three times as many PARC cases with Oregon OSHA involvement in 2012 as there were in 2011. More than half were the result of complaints filed with Oregon OSHA. Two were reported to Oregon OSHA directly by the employer, with the remaining five reported to Oregon OSHA by PARC.

In the table below, fifteen PARC cases are summarized. Cases are grouped by exposure type. Pesticide splashes were attributed to equipment malfunction, and incidents within structures were more likely to affect more people. In two cases 3rd parties (e.g., agriculture consultants, utility workers) performing ancillary activities on farmlands made entry into areas covered by a Restricted Entry Interval (REI) without notifying the farm operators, resulting in pesticide exposure incidents. This lack of coordination raises the issue of how to improve communications so people are not exposed to pesticides unknowingly.

PARC Cases with Oregon OSHA involvement in FFY 2012

Source	Exposure Type	Product	# Exp	Type of Establishment	WPS Applies	Citation Issued	Primary cause	Medical Treatment sought
R	Spill*	Trust	PXO	Agriculture/Transport	Yes	Yes	Un-secured load	Yes (nearby residents)
R	Splash	2,4-D	S	Landscaping	No	Yes	Equipment malfunction	yes
R	Splash	DEET	S	Manufacturing	No	I/C	Equipment malfunction	yes
E-R	Splash*	Terro-Gas (Methyl bromide/chloropicrin)	S	Agriculture	Yes	I/C	Equipment malfunction	Yes Hospitalized
E-R	Drift	Asana XL	S	Agriculture/exposed worker non-ag	Yes	Referral to ODA	Applicator error	Yes
R	Drift	3336 Fungicide	S	Agriculture	Yes	Yes	Sudden gust/workers nearby –not citable	Yes
C	Entry during REI	M-Pede	S	Agriculture	Yes	Yes	Failure to Notify	no
C	Entry during REI*	Gramoxone Inteon Asana XL 2,4-D Aim Epi-Mek	S	Agriculture/Crop Advisor/Multiple farms/same issue	Yes	Yes	Failure to Notify	No
C	Structural	Phantom (Int) Onslaught (ext)	PXO	Retail	No	I/C	Undetermined	No
C	Structural	Fumitoxin	PXO	Warehouse/Commodity	No	Yes	Improper use	No
C	Structural	Weevil-cide	PXO	Storage	No	I/C	Improper disposal (Explosion)	No
C	Structural	Diatomaceous earth	S	Residential/consumer exposure	No	I/C	Excessive Application	No
C	Chronic Exposure	Various/Applicator	S	Agriculture	Yes	Yes	Vague/chronic	Yes
R	Field Work outside REI w/in 30 days last application	Nu-Cop 50 DF Warrior II	S	Agriculture	Yes	Yes	7 Day warning, training	No
C	Field Work > than 30 days last application	Microrriza	S	Agriculture	No	I/C	Not substantiated	No

Source: C = Complaint filed with OR-OSHA; R = Referral from PARC; E-R= Employer Reported to OR-OSHA
 # Exposed: S = single exposure; G = group exposure; PXO = potentially exposing others
 I/C = In-compliance (no citation issued)

◆ **Three PARC Cases Highlighted**

The following narratives (referenced in the previous table with an asterisk) provide a synopsis for three cases.

Referral – Spill Incident: A pesticide spill on a public road had the potential to expose multiple individuals when an unsecured box with two 2 ½ gallon containers of Trust herbicide fell off a farm truck and was run over. A nearby resident observed a farmer picking up and placing the containers and box into his pickup truck and leaving the scene. The farmer then sent an employee to wash down the street, but was prevented in doing so by the resident who had called 911. When the first responders arrived, the identity of the spillage on the roadway was unknown. Sorbents were spread and swept up. A responding police officer obtained the identity of the material and photographed the scene which included one of the first responders standing in the material while directing traffic. A second cleanup occurred days later when the odors failed to dissipate. This was directed by the Department of Environmental Quality, according to the Material Safety Data Sheet, and was performed by the farmer who had picked up the containers. While the farmer maintained “no one saw the containers fall off my truck,” his nurse truck also carried unsecured containers of Trust herbicide. The employer received numerous violations from Oregon OSHA.

Employer-reported Splash Incident: A fumigant splash to the face occurred at the start of a soil fumigation operation utilizing Terro –Gas (Methyl bromide and Chloropicrin). The application was via shank injection, where the liquid fumigant is injected through tubing that runs alongside the shank that penetrates the soil, depositing the material below the surface. A tarp is automatically dispensed from the machine and is held in place by dirt – shoveled onto the tarp by personnel who follow the machine. The process had just started when one of the lines along the shank turned and sprayed a worker in the face. The employee was immediately rushed to the emergency eyewash station where his eyes and face were washed, and was then transported to the hospital where he was admitted. The employer had obtained the emergency eyewash after being cited during a previous inspection which produced the positive outcome of the employee not suffering any permanent eye damage. The employee experienced only a small skin burn to the forehead.

Complaint – Multiple Entries during Restricted Use Intervals: Entry into fields and orchards while a Restricted Entry Interval (REI) was in effect was the allegation of a complaint made by a former worker of an agricultural consulting firm. The complainant alleged multiple pesticide exposures over a 4-month period involving multiple farms. Exposure occurred during field sampling for insect monitoring. Of the nine incidents in the complaint, three fell outside the REI for the fields entered. Six of the incidents involved entry into fields/orchards under REIs. Two incidents occurred at one farm where the consulting staff failed to follow the farm’s established procedures prior to field/orchard entry. This farm had an incident earlier in the year where they were advised a crew would be out to trim trees near the power lines. Two months later during an aerial application to their hazelnut orchard, the tree trimming crew was sprayed. They had not stopped at the office prior to driving to the orchard. The other four farms did not have procedures in place to ensure that consulting staff/contractors’ employees entering the farms’ fields/orchards were notified of areas under an REI and of restrictions in entering those areas and were cited under the Worker Protection Standard. The agricultural consulting firm was also cited under the Worker Protection Standard.

◆ **External Training:** External training consists of two parts, workshops put on by the OR-OSHA Public Education Section, and speaking requests performed in conjunction with Oregon Department of Agriculture events. Speaking requests were conducted mostly in conjunction with day long multi-program agendas put on by grower groups, the Oregon Department of Agriculture, or the Oregon State University Extension Service for the purpose of maintaining credits for pesticide licensees. These are excellent opportunities to share our experiences with growers and workers. There is a strong interest in occupational safety and health topics and most sessions are well attended.

Oregon OSHA speaking requests in FFY 2012

Date	Topic	Attendees
10/20/2011	Hazard Communication Program	17
10/25/2011	Respiratory Protection & Hazard Communication for Soil Fumigants	52
11/1/2011	Worker Protection Standard	110
11/2/2011	Taking the Mis(s) Out of Understanding the WPS	62
11/3/2011	Taking the Mis(s) Out of Understanding the WPS	175
11/8/2011	WPS Violations & Respiratory Protection	15
11/10/2011	Ag Health & Safety - Ag Jeopardy	37
11/30/2011	Respiratory Protection for Ag Operations	17
12/2/2011	Worker Protection Standard	10
12/13/2011	Safe Handling of Fumigants and Fumigation Management	120
1/23/2012	Worker Protection Standard	100
1/24/2012	Respiratory Protection, WPS, Pesticide Mixing & Loading, Pesticide Storage	45
1/24/2012	Pesticide Applicators Training – Using a Tracer	200
1/24/2012	Pesticide Applicators Training – PPE	200
2/6/2012	Growers Talk - General OSHA Information	35
2/10/2012	WPS, Hazard Communication, Pesticide Storage & FMPs	27
2/23/2012	WPS, Hazard Communication, PPE, Pesticide Storage	23
3/14/2012	Respiratory Protection for Ag Operations	13
4/4/2012	Cultural Diversity for Oregon Pesticide Symposium	35
6/9/2012	Respiratory Protection for the Oregon Pest Control Association	40
7/3/2012	Hazard Communication Program	30
7/12/2012	WPS in Forestry	66
9/18/2012	Hazard Communication Program	14
9/19/2012	Hazard Communication Program	30
		1,473

Pesticide Related Interventions – External Training, FFY 2012

Classes (Workshop & Internet)	Sessions	Attendees
1240-Hazard Communication Program (Haz Com)	9	231
1241-Personal Protective Equipment (PPE)	1	146
1410-Worker Protection Standard (WPS)	6	101
		478

Source: Information Management Division, Oregon Department of Consumer and Business Services, December 2012

◆ **Public Outreach:** Oregon OSHA tracks publication circulation and video requests. The next few tables show what activity was done for FFY2012.

Oregon OSHA Publications in FFY 2012

Titles	Internal Oregon OSHA requests	External requests	*Web “Hits”
The Air you Breathe (respirators, #3654)	500	4	242
EPA quick guide to the WPS (#3924)	275	0	71
Pesticide use and your PPE (#1018)	975	16	170
Safe practices when Handling Agricultural Chemicals (pesticides, #1951)	2,200	4,827	309
Washing pesticides contaminated clothes (magnet, #2858)	250	14	53
Washing pesticides contaminated clothes - SP (magnet, #2858-S)	225	3	135
Rules. Division 4 Agriculture	45	5	4,989

*The number of times each document was ‘clicked on’ through the OR-OSHA website, www.orosha.org.

Pesticide Related Interventions – Consultative Services Booth Shows, FFY 2012

Show	Date of show
North West Ag Show	January

Source: Information Management Division, Oregon Department of Consumer and Business Services, December 2012

Oregon OSHA's consultations are tracked to include potential outreach of information in the selected industries.

Oregon OSHA Consultations by NAICS in FFY 2012

Industry (NAICS)	Health	Safety*
111339	2	50
111421	3	11
111998	7	18
115112	1	1
Total	13	80

Oregon OSHA Resource Center Pesticide-related Videos, FFY 2012

#	Name	English	Spanish	Requests
66	HAZARD COMMUNICATION - AGRICULTURE SERIES	X	X	24
72	BREATHE EASY - RESPIRATOR SAFETY (E/S)	X	X	11
95	PESTICIDE SAFETY: WORKER PROTECTION (1987 REV 1997) E/S	X	X	1
151	PESTICIDE PROTECTION TRAINING FOR AGRICULTURAL WORKERS (E/S)	X	X	3
323	PESTICIDE SAFETY: WORKER PROTECTION (1987 REV - 1997) E/S	X	X	1
332	WORKER PROTECTION STANDARDS: AN OVERVIEW	X		2
352	HOW TO CONDUCT WORKER PROTECTION TRAINING/TRAIN THE TRAINER	X		4
380/383	PESTICIDE HANDLERS AND THE WORKER PROTECTION STANDARD	X	X	2
392	PESTICIDE TRAINING FOR AGRICULTURAL EMPLOYEES	X		1
446/447	BREATHE EASY: A RESPIRATORY PROTECTION PROGRAM	X	X	3
465	EPA WORKER PROTECTION STANDARD FOR PESTICIDE HANDLERS (E/S)	X	X	1
474	OREGON PESTICIDE SAFETY GUIDE (FLIP CHART)	X		2
1051	PROTECTING YOURSELF FROM PESTICIDE HAZARDS IN THE WORKPLACE	X	X	1
1293	HAZARD COMMUNICATION - AGRICULTURE SERIES	X	X	2
				58

Source: Information Management Division, Oregon Department of Consumer and Business Services, December 2012

- ◆ **Oregon Pesticide Symposium—Multi-Agency Annual Meeting:** The annual Oregon Pesticide Symposium was held on April 3-4, 2012. Attendees included Oregon OSHA, Oregon Department of Agriculture (ODA), EPA Region X, the National Institute of Occupational Safety and Health's National Personal Protective Technology Laboratory (NIOSH/NPPTL), the Pacific Northwest Agriculture Safety and Health Center (PNASH), the Center for Occupational and Environmental Toxicology (CROET), Oregon State University Extension Service and the National Pesticide Information Center (NPIC). This 2-day symposium provided an excellent opportunity for exchanging information and networking among the various attending agencies who deal with pesticide safety issues.

◆ **Conclusions:** Pesticide safety remains a high priority for Oregon OSHA. Our enforcement activities in general farming, deciduous tree fruits, nursery and tree production, floriculture and crop preparation (selected NAICS) result in citations being issued in over 80% of the inspections completed. Outreach activities provide an ongoing avenue to interact with growers and pesticide applicators on occupational health and safety issues.

◆ **Accomplishments:**

- The partnership with the National Institute for Occupational Safety and Health's National Personal Protective Technology Laboratory (NIOSH/NPPTL) continued on the "Barriers to PPE for Pesticide Handlers" project.
- Conducted outreach to the Organic Growers through Oregon TILTH to increase awareness that the products they used could be regulated pesticides.
- Conducted internal staff training on aluminum phosphide.
- Oregon OSHA staff was interviewed by the Capital Press regarding the hazards aluminum phosphide posed to users.
- Outreach to the Forestry sector opened up new lines of communication with stakeholders regarding the WPS, with the major concern being the logistics around notifying contractors.

◆ **Goals for the coming year**

- Continue networking and outreach with the Forestry Stakeholder's Group regarding the Worker Protection Standard.
- Create outreach materials to address notification in both the farming and forestry sectors.
- Enhance efficiency in communication with PARC through development of Standard Operating Procedures.
- Create aluminum phosphide hazard alerts for pesticide applications dealing with structural and burrowing rodents.
- Network with the Department of Environmental Quality on pesticide-related issues.