

**OREGON OSHA  
PESTICIDE EMPHASIS PROGRAM  
ANNUAL REPORT  
Federal Fiscal Year 2015**



**THE OREGON  
PESTICIDE SYMPOSIUM  
2015**



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**Introduction:**

Oregon OSHA and the United States Environmental Protection Agency (EPA), Region 10 Pesticides and Toxics Unit, collaborate on pesticide safety issues. Oregon OSHA enforces the Worker Protection Standard, which is supplemented with a pesticide emphasis program. This report is the annual review of the pesticide emphasis program for federal fiscal year 2015 (FY2015). 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 Oregon OSHA’s Program Directive A-235, entitled “Local Emphasis Program for Pesticides.” Inspections were completed from a programmed list selected from these 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 Nurseries & Tree Production
- NAICS 111422 Floriculture Production
- NAICS 115112 Crop preparation including pesticide spraying

NAICS were selected based on the amount and toxicity of pesticides in use, frequency of pesticide applications, the diversity of crops, and the number of workers employed, and work practices in use. 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. For FY2016 two additional NAICS were added, 111332, Grape Vineyards, and 113110 Timber Tract Operations.

**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, Thiram, and supervision. Implementation of these requirements can reduce the likelihood of exposures resulting in acute or chronic effects. The Pesticide Emphasis Program continues to be an effective tool for disseminating information, education, compliance assistance and enforcement activities to reduce occupational exposures to pesticides in the agriculture industry.

The following is a brief summary of the findings resulting from the evaluation of FY2015 activity. Please see each section for tables and explanations of each.

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- ◆ **Inspection Activity:** In FY2015, 59 inspections were done, with 50 inspections (85%) resulting in citations, and covering 2685 workers. The Worker Protection Standard (WPS) was applicable in 41 inspections, indicated by Tier 1 and Tier 2 in the table below. WPS Tier 1 inspections accounted for 59% (35/59) of the pesticide emphasis inspections, and 10% (6/59) were Tier 2. For all WPS inspections, 85% (35/41) were classified as Tier 1. Inspections where pesticides have been used within the preceding 30 days plus the restricted entry interval are classified as Tier 1; inspections where pesticides have not been used within the preceding 30 days plus the restricted entry interval are classified as Tier 2. In the selected NAICS, 31 inspections were conducted with citations issued in 26 cases, of these 84% (26/31) classified as WPS Tier 1 inspections. Of the 59 pesticide emphasis inspections, 31% (18/59) fell outside the scope of the Worker Protection Standard.

### Statistics for Completed Inspections by Industry (NAICS), FY2015

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	6	4	2	66	33	5	1	0	43
	111421	11	9	2	82	18	7	4	0	229
	111422	3	3	-	100	-	3	-	-	67
	111998	7	7	-	100	-	7	-	-	121
	115112	4	3	1	75	25	4	-	-	90
	111219	1	1	-	100	-	1	-	-	4
	111332	1	1	-	100	-	1	-	-	8
	111334	4	3	1	75	25	4	-	-	179
	111335	1	1	-	100	-	-	1	-	7
	113110	1	-	1	-	100	1	-	-	19
	113310	1	-	1	-	100	1	-	-	5
	115310	2	2	-	100	-	1	-	1	53
	221310	1	1	-	100	-	-	-	1	25
	238160	1	1	-	100	-	-	-	1	7
	331528	1	1	-	100	-	-	-	1	100
	424910	2	2	-	100	-	-	-	2	60
	444220	1	1	-	100	-	-	-	1	24
	488190	2	2	-	100	-	-	-	2	94
	541990	1	1	-	100	-	-	-	1	4
	561422	1	-	1	-	100	-	-	1	260
	561710	3	3	-	100	-	-	-	3	49
561730	1	1	-	100	-	-	-	1	3	
562910	1	1	-	100	-	-	-	1	31	
622110	1	1	-	100	-	-	-	1	1200	
713940	1	1	-	100	-	-	-	1	3	
<b>Total</b>		<b>59</b>	<b>50</b>	<b>9</b>	<b>85</b>	<b>15</b>	<b>35</b>	<b>6</b>	<b>18</b>	<b>2685</b>

Source: Information Management Division, Oregon Department of Consumer and Business Services, December 2015

Based on the types of inspections listed below, 22 were programmed planned and 19 of these were completed in the selected NAICS. There were 22 complaint inspections with 90% (20/22) receiving citations; of these 55% (11/20) had serious violations. In 2014, 51% of the complaints were unsubstantiated, compared to only 9% (2/22) in 2015. There were 10 referrals in FY2015 with, 70% (7/10) receiving citations; of these 71% (5/7) had serious violations.

**Attempted and completed inspections by inspection type and industry (NAICS), FY2015**

	Total	Selected NAICS					Other NAICS
		111339	111421	111422	111998	115112	
Total completed inspections	59	6	11	3	7	4	28
Accident/Fatality	2	-	-	1	-	-	1
Complaint	22	2	1	-	3	-	16
Referral	10	-	1	-	-	2	7
Follow-up	0	-	-	-	-	-	-
Programmed Planned	22	4	8	2	4	1	3
Programmed Related	2	-	-	-	-	1	1
Un-programmed Related	0	-	-	-	-	-	-
Attempted (triple zero)	12	1	3	0	3	1	4

*Source: Information Management Division, Oregon Department of Consumer and Business Services, December 2015*

◆ Violation characteristics:

The following table highlights the distribution of violations. In FY2015, there were 217 pesticide related violations cited with penalties totaling \$17,575. WPS penalties accounted for \$14,215. In the selected NAICS 130 violations were cited with penalties totaling \$11,420. WPS violations accounted for 49% (64/130) of those violations with penalties totaling \$6570. Pesticide-related violations accounted for 66 violations with penalties totaling \$4850. Other pesticide-related violations include the Oregon OSHA standards addressing hazard communication, respiratory protection, personal protective equipment, emergency eyewash, supervision, pesticide storage, fumigation, thiram, and work-site inspections.

**Pesticide Violations and Penalties in FY2015 Totals**

Industry (NAICS)		Total Pesticide Related Violations	WPS Violations				Other Pesticide Related Violations			
			Serious	Other than serious	Repeat	Total penalties	Serious	Other than serious	Repeat	Total penalties
Selected NAICS	111339	18	-	7	-	-	1	10	-	\$100
	111421	49	9	16	-	\$620	10	14	-	\$510
	111422	8	1	2	1	\$370	-	1	3	\$360
	111998	34	4	15	-	\$330	5	10	-	\$380
	115112	21	7	2	-	\$5250	11	1	-	\$3500
<b>Totals</b>		<b>130</b>	<b>21</b>	<b>42</b>	<b>1</b>	<b>\$6570</b>	<b>27</b>	<b>36</b>	<b>3</b>	<b>\$4850</b>
	111219	1	-	1	-	-	-	-	-	-
	111332	4	3	1	-	\$300	-	-	-	-
	111334	14	1	8	-	\$150	4	1	-	\$300
	111335	2	2	-	-	\$100	-	-	-	-
	115310	7	3	-	-	\$525	1	3	-	\$180
	221310	2	-	-	-	-	2	-	-	\$200
	238160	6	-	-	-	-	5	1	-	\$320
	331528	1	-	-	-	-	1	-	-	\$180
	424910	9	-	-	-	-	9	-	-	\$1040
	444220	1	-	-	-	-	1	-	-	\$300
	488190	7	-	-	-	-	7	-	-	\$840
	541990	1	-	-	-	-	-	1	-	-
	561710	4	-	-	-	-	3	1	-	\$340
	561730	13	-	-	-	-	-	13	-	-
	562910	12	-	-	-	-	12	-	-	\$1380
	622110	1	-	-	-	-	-	1	-	-
713940	2	-	-	-	-	-	2	-	-	
<b>Totals</b>		<b>87</b>	<b>9</b>	<b>10</b>	<b>-</b>	<b>\$1075</b>	<b>45</b>	<b>23</b>	<b>-</b>	<b>\$5080</b>
<b>Grand Total</b>		<b>217</b>	<b>30</b>	<b>52</b>	<b>1</b>	<b>\$7645</b>	<b>72</b>	<b>59</b>	<b>3</b>	<b>\$9930</b>

Source: Information Management Division, Oregon Department of Consumer and Business Services, December 2015  
 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 violations below are classified as either handler or worker related using the definitions of the Worker Protection Standard. A handler is an employee who either mixes, loads, applies, or works on spray equipment and can be exposed to the concentrated form of the pesticide. Workers are employees who are working with plant materials that may have pesticide residue on them. The most frequently violated standards were for personal protective equipment (PPE-Respirators and PPE-Other). Violations of the Fumigant and Thiram rules were also cited in FY 2015.

### Pesticide Violations Cited in FY2015

	Violation type	Violations
Handler related	PPE Respirators	30
	PPE- Other	38
	Hazard communication	27
	Pesticide storage	13
	Central posting	11
	Training	17
	Decontamination	13
	Contaminated transportation	1
	Emergency eyewash	10
	Fumigants	4
	Label specific information	1
	Contact with other persons	1
	Health Hazard Control Measures/Hazard ID	5
	Thiram	5
	Emergency Aid	1
Worker related	Central posting	20
	Training	3
	Safe Practices brochure	1
	Notification to workers	4
	Early entry	1
	Decontamination	3
Other	Other (Supervision/Inspections)	4
	Non-pesticide related	17

*Source: Information Management Division, Oregon Department of Consumer and Business Services, December 2015*

**Pesticide Analytical Response Center (PARC) Cases:** The number of PARC cases in FY2015 tripled from the previous year. PARC cases occurred in a variety of settings, with only 16% in the traditional agricultural sector. The forestry sector was represented for the first time with 3 cases, and the other settings ranged from health care to an airport. Two cases involved hospitalizations, one occurred in a nursery and the other in a construction company performing remediation. WPS applied in only 6 cases. The pesticides involved were primarily herbicides(42%) and disinfectants (32%). Of the 6 cases with multiple exposures, 66% involved disinfectants.

PARC Cases with Oregon OSHA Involvement in FY2015									
Source	Exposure Type	Product	Signal Word	# Exp	Type of Establishment	WPS Applies	Citation Issued	Primary cause	Medical Treatment sought
OERS*	Handling product	Atrazine, Velossa Cleanslate +	Warning, Danger	1	Forestry	✓	✓	Multiple issues	Yes
C*	Handling product	Various herbicides	Caution	1	Forestry	✓	✓	Multiple issues	Yes
R	Bystander	Atrazine, Velpar DF	Caution, Danger	5	Forestry	✓	✓	Failure to Notify	Yes
R	Handler	Glystar Plus	Caution	1	Farm		✓	Unsubstantiated	Yes
C	Bystander	Lime Sulfur	Danger	1	Farm		✓		No
ER*	Bystander	Phosphate	Caution	1	Nursery	✓	✓	Inadequate notification*/ventilation	Yes
R	Handling product	Microthiol disperss	Caution	1	Vineyard	✓	✓	Issues with training, PPE, & decon	Yes
R	Handling product	2,4 D + Roundup	Danger, caution	1	Christmas trees	✓		No violations	
C	Handling product	Sodium silicate	Warning	1	Roofing		✓	Inadequate PPE	
ER*	Handling product	MDF-500 Part A MDF-500 Part B	Danger	3	Remediation		✓	Multiple issues	Yes
C	Handling product	Ranger Pro	Caution	1	Landscaping		✓	Bent over & backpack leaked down spine	yes
C	Bystanders	Formula 3014	Danger	5	Manufacturing		✓	Used too much	Yes
R	Bystander	H2Orange2	Caution	1	Gym		✓	Failure to follow label	
C*	Handling product	Jon-Don Matrix Sanitizer/Cleaner #3 Celeste Sanicide	Danger Caution	3+	Disinfecting airplane cabins		✓	Inadequate PPE	
C*	Handling product	Jon-Don Matrix Sanitizer/Cleaner #3 Celeste	Danger Caution	3+	Disinfecting airplane cabins		✓	Inadequate PPE	

Source	Exposure Type	Product	Signal Word	# Exp	Type of Establishment	WPS Applies	Citation Issued	Primary cause	Medical Treatment sought
C	Handling product	Various herbicides	Caution	1	Blending Bagging weed & feed		✓	No air monitoring to determine adequacy of respiratory protection	Yes
C	Bystander	Super HDQ Neutral	Danger	1	Hospital		✓	Volume used	Yes
R	Bystander	Crossbow	Caution	1	Retail		✓	Failure to provide medical aid	Yes
R	Bystander	Wisdom flowable	Caution	1	Call Center				

Source: C = Complaint filed with Oregon OSHA; R = Referral from PARC; OERS = Oregon Emergency Response System; # exp = the number exposed; ER= Report of hospitalization submitted by employer; \* indicates narrative to follow.



## ◆ Six PARC Cases Highlighted

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

### Referral: Pesticide exposures in the Forestry setting:

A referral from the Oregon Emergency Response System resulted after a former employee of an aerial application company presented at the Mercy Medical Center in Roseburg alleging adverse effects from exposure to herbicides over three week period. Herbicides used included Atrazine, Velossa and Cleanslate. The former employee video taped his exposures and released multiple segments to the news media. During the investigation, another employee of the company, but with a different crew, sought medical care in Oregon after exposure on a jobsite in Washington state. Both experienced difficulty breathing, sinus issues and skin irritation. Joint investigations by Oregon OSHA and the Oregon Department of Agriculture (ODA) resulted in numerous violations by Oregon OSHA and the suspension of the company's Commercial Operator's license by ODA.

### Employer reports of hospitalization: 2 employees are hospitalized after pesticide exposures:

Employer Report Case 1: A nursery worker entered an enclosed hoop house (~5 feet high) approximately 2 hours after the area was treated with the fungicide Phosphate. The employee was taken to an immediate care facility and transferred to Salem Hospital where he was hospitalized after experiencing difficulty breathing, nausea and vomiting. The hoop structure did not have any ventilation. A hoop structure such as this is designed to offer protection from the cold, and is not designed to be a work area. The employer was cited for inadequate signage to keep employees out of the area.

Employer Report Case 2: A construction company that specializes in water damage remediation had an employee hospitalized with 1<sup>st</sup> and 2<sup>nd</sup> degree chemical burns over 20% of his body after applying MDF 500 Part A and Part B in a crawl space of a private residence using a pressurized hand held sprayer. Another employee received burns to the arm and shoulder. The employer received multiple violations and referrals were made to the Oregon Department of Agriculture regarding use inconsistent with the label and to Federal OSHA.

### 2 Complaints: Pesticide application in airline cabins:

At least three employees suffered skin rashes and eye irritation after using the disinfectants Jon-Don Matrix Sanitizer/Cleaner #3 and Celeste Sanicide to disinfect commercial airplane cabins. The employees developed the rashes just above the cuff line of the inadequate gloves they were provided. The employer was cited for multiple violations.

## Consultative Services FY2015

Consultations by NAICS in FY 2015		Safety	Health
111339		40	3
111421		12	3
111422		4	0
111998		12	3
115112		4	1
111332		8	5
113110		8	0
<b>Totals</b>		<b>88</b>	<b>15</b>

*Source: Information Management Division,  
Oregon Department of Consumer and Business Services, December 2015*

◆ **External Training:**

External training consists of speaking requests performed in conjunction with Oregon Department of Agriculture credit events and workshops put on by the Oregon OSHA Public Education Section. Speaking requests were conducted mostly in conjunction with day long multi-program agendas put on by grower groups, such as the Horticultural Society, the Oregon Agricultural Chemical and Fertilizer Association, the Oregon Department of Agriculture, or the Oregon State University Extension Service, for the purpose of maintaining credits for pesticide licensees.

**Oregon OSHA speaking requests in FY2015**

Date	Topic	Attendees
11/4/2014	Learning from History: Pesticide Spills	120
11/5/2014	Learning from History: Pesticide Spills	125
11/6/2014	Learning from History: Pesticide Spills	250
12/5/2014	Stories and Tales from the Field	50
12/9/2014	Deciphering the Pesticide Label for Proper PPE Selection	54
12/10/2014	Oregon Pesticide Emphasis Program	100
1/6/2015	Respirator Program	200
1/12/2015	WPS and Hazard Communication	105
1/20/2015	Learning from History: Transporting Pesticides	200
1/27/2015	Haz Com & WPS Training for Employees	23
1/27/2015	Heat Illness	23
1/27/2015	Respirators to Prevent Respiratory Disease	23
1/27/2015	Changes to WPS	23
1/28/2015	Respirators to Prevent Respiratory Disease	13
1/28/2015	Changes to WPS	13
1/28/2015	Haz Com & WPS Training for Employees	13
1/29/2015	Respirators to Prevent Respiratory Disease	8
1/29/2015	Changes to WPS	8
1/29/2015	Haz Com & WPS Training for Employees	8
1/29/2015	Solutions to Common Violations	8
1/30/2015	DIY Respirator Program	120
2/4/2015	Learning from History: Transporting Pesticides	115
2/16/2015	WPS in Forestry	73
3/3/2015	Worker Protection Standard for Forestry	200
3/6/2015	Respiratory Protection for Agriculture Operations	5
3/18/2015	Personal Protective Equipment- Pesticide Emphasis	80
3/27/2015	Hot Topic: Pesticide Emphasis Program	33
9/22/2015	Oregon OSHA Rules that Apply to Structural Pest Control	50
		<b>2043</b>

### Pesticide Related Interventions – External Training, FY2015

Classes (Workshop & Internet)	Sessions	Attendees
Hazard Communication – Aligned with GHS (HazCom)	13	834
Personal Protective Equipment (PPE)	Internet	662
Worker Protection Standard (WPS)	5	76
		<b>1,608</b>

*Source: Information Management Division,  
Oregon Department of Consumer and Business Services, December 2015*

**Public Outreach:** Oregon OSHA tracks publication circulation and video requests. The next few tables show activity for FY2015.

### Oregon OSHA Publications in FY2015

Titles	Number Distributed
Pesticide Use and Your PPE	688
Safe Practices When Working Around Agricultural Chemicals (English/Spanish)	4929
Air You Breathe: Oregon OSHA's Respiratory Protection Guide for Agricultural Employers	409
Pesticide Worker Protection Standard reference guide	186
Agricultural Activities AO 3-2014	68

### Oregon OSHA Resource Center Pesticide-related Videos, FY2015

#	Name	English	Spanish	Requests
72	BREATHE EASY - RESPIRATOR SAFETY (E/S)	X	X	9
66/67	HAZARD COMMUNICATION - AGRICULTURE SERIES	X	X	9
1293	HAZARD COMMUNICATION - AGRICULTURE SERIES	X		1
352	HOW TO CONDUCT WORKER PROTECTION TRAINING/TRAIN THE TRAINER	X		3
170	PESTICIDE HANDLERS AND THE WORKER PROTECTION STANDARD	X		2
171	PESTICIDE HANDLERS AND THE WORKER PROTECTION STANDARD		X	1
151	PESTICIDE PROTECTION TRAINING FOR AGRICULTURAL WORKERS (E/S)	X	X	5
95	PESTICIDE SAFETY WORKER PROTECTION (1987. REV 1997)	X	X	1
383	PESTICIDE HANDLERS AND THE WORKER PROTECTION STANDARD		X	1
				<b>32</b>

*Source: Information Management Division, Oregon Department of Consumer and Business Services,  
December 2015*

## ◆ Oregon Pesticide Symposium—Multi-Agency Annual Meeting:

The annual Oregon Pesticide Symposium was held in April 2014, with representatives attending from these agencies: Oregon OSHA, Oregon Department of Agriculture, Oregon Department of Forestry, Oregon Department of Environmental Quality, Oregon Health Authority, Oregon Department of Transportation, Oregon State Fire Marshal, Oregon Institute of Occupational Health Sciences (formerly known as CROET), the National Pesticide Information Center, the Pacific Northwest Agricultural Safety and Health Center, Oregon State University and the EPA Region 10.

## ◆ Conclusions:

The working relationships between Oregon OSHA and the EPA Pesticides Unit (Region 10) remain positive and productive. Oregon OSHA provided assistance to the EPA on the changes they made to the Worker Protection Standard. The Oregon Pesticide Symposium provides opportunities for agencies to collaborate and coordinate around pesticide safety and worker protection issues. The number of agencies present and people in attendance has grown. PARC remains a vital connection for communicating and coordinating agency actions related to pesticide exposure incidents.

## ◆ Accomplishments:

- ◆ Oregon OSHA continued, together with EPA Region 10 and the Oregon Department of Agriculture, to pursue remedies to the significant problem with incorrect respirator language on pesticide labels with EPA. Oregon OSHA presented the issue to the EPA's Pesticide Operations and Management (POM) meeting in September 2015. POM is a working committee of the State FIFRA Issues Research and Evaluation Group (SFIREG). The Office of Pesticide Programs then created a task force to determine the most effective solution. Oregon OSHA provided the task force with resource materials to clearly understand the scope of the problem.
- ◆ Added a fumigation page with links to the Oregon Department of Agriculture and the EPA's Soil Fumigant Toolbox. <http://www.orosha.org/relatedlinks/fumigation.html>
- ◆ Increased outreach to a diversified audience of pesticide users.
- ◆ Presented pesticide tracks at both the Governor's Occupational Safety and Health Conference and the Central Oregon Safety and Health Conference.
- ◆ Expanded the Oregon Pesticide Symposium to include all Oregon pesticide agencies that either conduct investigations or conduct activities in support of an investigation based upon each agency's regulatory authority. Participants reviewed pesticide cases to better understand each agency's roles and responsibilities, engaged in activities designed to foster information exchange and improve communication.
- ◆ Established uniform written procedures to make pesticide incident referrals to the Pesticide Analytical and Response Center (PARC).

## ◆ Goals for the coming year:

- ◆ Continue to provide technical assistance in partnership with EPA Region 10, the Oregon Department of Agriculture, Oregon Department of Forestry and Slipstream Media to finalize the first Worker Protection Standard pesticide safety training video for Forestry.
- ◆ Develop a Frequently Asked Questions section on Oregon OSHA's Pesticide Page to address questions concerning pesticide exposure.
- ◆ Develop outreach for the newly regulated marijuana industry with regards to pesticide use.
- ◆ Develop, update and provide assistance to the regulated communities regarding the changes made to the Worker Protection Standard.
- ◆ Adopt changes to the Worker Protection Standard made by EPA.