



**Agricultural Workplace Compliance With
The Environmental Protection Agency's
Worker Protection Standard:
An Idaho Analysis**

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BACKGROUND

- Numerous benefits of pesticides
 - Growing global food supply has increased by 170% since 1948¹
 - In the US, 90% of all pesticides applied are used in the agricultural sector²
- Risks of pesticides among farmworkers
 - 10,000-20,000 pesticide poisonings among farmworkers are diagnosed by physicians each year³
 - Farmworkers suffer from pesticide-related illnesses at a rate of ≈ 40 times higher than all other workforces combined⁴



¹Wang, S. L., Nehring, R., & Mosheim, R. (2018). Agricultural Productivity Growth in the United States: 1948-2015. from <https://www.ers.usda.gov/amber-waves/2018/march/agricultural-productivity-growth-in-the-united-states-1948-2015/>

²Atwood, D., & Paisley-Jones, C. (2017). Pesticide Industry Sales and Usage from https://www.epa.gov/sites/production/files/2017-01/documents/pesticides-industry-sales-usage-2016_0.pdf

³EPA. (1992). Regulatory Impact Analysis of Worker Protection Standard for Agricultural Pesticides EPA

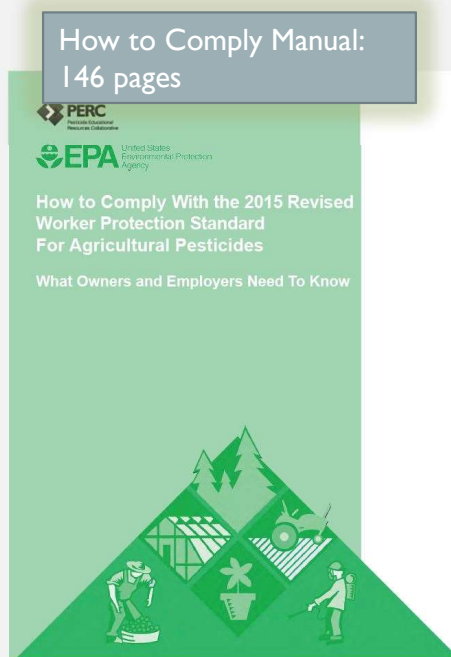
⁴Calvert, G. M., Beckman, J., Prado, J. B., Bojes, H., Mulay, P., Lackovic, M., . . . Higgins, S. (2014). Acute Occupational Pesticide-Related Illness and Injury -- United States, 2007-2010. *MMWR: Morbidity & Mortality Weekly Report*, 62(54).

THE WORKER PROTECTION STANDARD

Primary federal regulation aimed at reducing pesticide exposure among farmworkers

Encompasses the areas of:

- Pesticide Safety Training
- Notification of pesticide applications,
- Use of PPE
- Restricted-entry intervals after pesticide application,
- Decontamination supplies
- Emergency medical assistance
- And more



Pesticide products registered for agricultural use is labeled with a reference to the WPS

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment, restricted-entry intervals and notification of workers.

Noncompliance with the WPS is a legal violation of the pesticide label



THE WPS IN IDAHO

- The **Idaho State Department of Agriculture** is responsible for monitoring and enforcing WPS compliance
- The ISDA conducts WPS compliance inspections
- Results of these inspections have been entered into a database



NOTIFICATION, ENTRY RESTRICTIONS & POSTING §170.407, §170.409

	YES	NO	N/A	C/A
1. After the application of any pesticide to an outdoor production area, does the employer not allow any worker to enter or remain in the treated area before the REI has expired and all warning signs have been removed or covered? (except for permitted early-entry activities)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. After the application of any pesticide to an area of enclosed space production, does the employer not allow any worker to enter or remain in the area before the REI has expired and all warning signs have been removed or covered? (except for permitted early-entry activities)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. When required on the label, are both oral and posting warnings given? (Highly Toxic)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. For any outdoor production area applications with an REI of 48 hours or less, are either oral notification or posted warning signs used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. For any outdoor production area applications with REI greater than 48 hours are posted warning signs used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a. Do signs meet the size and content requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Are signs posted in adequate locations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Are signs posted before the application, but no sooner than 24 hours before?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Do signs remain posted until the REI expires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Are signs removed within 3 days of expiration of REI?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. For any enclosed space production area applications with an REI greater than 4 hours are posted warning signs used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a. Do signs meet the size and content requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Are signs posted in adequate locations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Are signs posted before the application, but no sooner than 24 hours before?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Do signs remain posted until the REI expires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Are signs removed within 3 days of expiration of the REI?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. For any enclosed space production area applications with REI of 4 hours or less, are either oral notification or posted signs used? If oral notification:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a. Does the notification include location, dates and times of the restriction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Does the notification include instructions about the restriction in a manner that is understandable to the workers?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Is the notification provided before the application or at the time a worker begins their work period?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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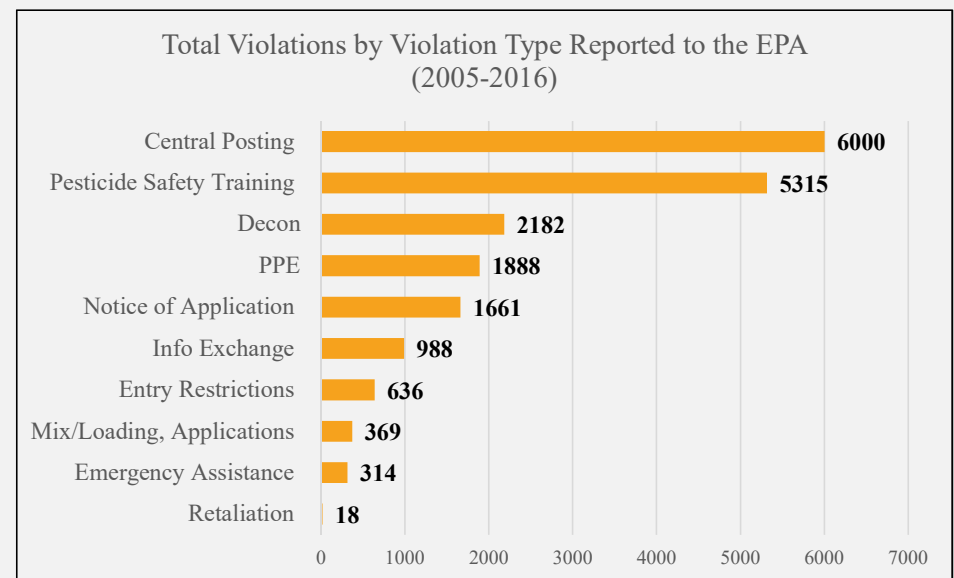
RESEARCH OBJECTIVE

To produce a comprehensive report describing the extent to which agricultural employers comply with the WPS in Idaho

By analyzing the results of 832 WPS compliance inspections conducted by ISDA staff between 2001-2019

RELEVANCE

- There is limited information regarding the extent to which agricultural employers/supervisors comply with the WPS
- EPA national dataset is incomplete
- Small-scale studies describe compliance on only a small set of agricultural establishments



AIM #1

To learn about the Worker Protection Standard in Idaho and strengthen relationships between Boise State's Agricultural Health Lab and the Idaho State Department of Agriculture

- ✓ Regular meetings with ISDA staff in the pesticide safety and WPS division
- ✓ Observed a WPS compliance inspection alongside ISDA staff
- ✓ Completed a WPS train-the-trainer session hosted by the ISDA

AIM #2

To describe spatial and temporal WPS compliance trends in Idaho and to identify those components of the WPS with which agricultural employers were least compliant.

- ✓ Gain access to the ISDA's WPS compliance inspection database
- ✓ Complete two Microsoft Access courses and one R course in preparation for data analysis
- In progress: Data analysis and report

LIMITATIONS

No observation of the impact of compliance on farmworker health

Data set is not random

Missing and inapplicable

Does not include results of WPS compliance *investigations*

Ag employers provided advance notice of inspections


Our analysis should therefore be considered overestimates of the magnitude of WPS compliance in Idaho.

STRENGTHS & IMPACTS

To our knowledge, this is the first state-wide, comprehensive analysis of hundreds of WPS compliance inspections



Unique opportunity to identify and inform the ISDA of the most problematic areas of the WPS



Will inform inspection staff of any noncompliance trends as a means of potentially influencing inspection strategies and trainings in the future.

Communicating to ag employers common noncompliance issues to prevent on their own establishment

These areas of noncompliance provides opportunities for improved protection of farmworker health and safety.



NEXT STEPS

- Data analysis continues
- Report findings to ISDA staff
- Infographic to be distributed to ag employers at train-the-trainer sessions throughout Idaho
- Continue thesis development & defend in the spring
- Publish thesis manuscript

Acknowledgments

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