

Report to the Legislature

# Pesticide Application Safety

December 2018



Prepared by

Pesticide Application Safety Workgroup



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## Executive Summary

During the 2018 Session, the Washington State Legislature passed Engrossed Second Substitute Senate Bill 6529, Pesticide Application Safety Workgroup.

The bill recognized that farmers, farmworkers, and the broader community share an interest in minimizing human exposure to pesticides. It also recognized that gains have been made in reducing human exposure to pesticides and that collaboration between state agencies and the farming community could further reduce agricultural workers exposure to pesticide drift.

The legislation established a pesticide application safety workgroup that would make recommendations for improving pesticide application safety. Workgroup members included legislators from both chambers and caucuses, as well as representation from state agencies and the Commission on Hispanic Affairs.

The workgroup sought public participation to learn more about pesticide application safety. Many stakeholders including but not limited to local farm hosts, the agricultural industry, and members of the agricultural workforce contributed valuable assistance and input. To meet the timeline established by the legislation, the workgroup met during the peak agricultural work season. Consequently, this made it more challenging for some members of the agricultural workforce to attend meetings or provide comments.

The workgroup reached two noteworthy recommendations regarding what can be done now to improve pesticide application safety:

- **Expand training.** The Washington State Department of Agriculture lacks sufficient resources to meet the training demand from pesticide applicators and handlers.
- **Establish a new pesticide application safety panel.** The panel would provide an opportunity to evaluate and recommend policy options, and investigate exposure cases.

The workgroup concluded that draft legislation is warranted to expand funding for a training program and set up a new pesticide application safety panel with clear objectives.

This report was drafted by staff at the Washington State Department of Health and reviewed by members of the pesticide application safety workgroup who support the content.

## Introduction

During the 2018 legislative session, the Washington State Legislature passed Engrossed Second Substitute Senate Bill (ESSSB) 6529, Pesticide Application Safety Workgroup. The bill established that farmers, the agricultural workforce, and the broader community share an interest in minimizing human exposure to pesticides. In addition, the Legislature found that many advances have been made in pesticide technology, equipment, training and regulation that have led to significant decreases in pesticide exposure on farms. Still, there continues to be a need for collaboration between the state agencies and the farming community to further minimize the health effects of pesticide exposure.

ESSSB 6529 created a pesticide application safety workgroup (the workgroup) to develop recommendations for improving the safety of pesticide applications in Washington. The workgroup was co-chaired by Senator Rebecca Saldaña and Representative Tom Dent. The full workgroup membership is listed in Appendix A.

The workgroup was directed to review:

- Existing state and federal laws regulating pesticide safety and application.
- New technologies to increase pesticide application safety.
- The structure of the former pesticide incident reporting and tracking panel (PIRT) to determine if a similar group should be created.
- Current data and reports from Washington and other states that may be helpful in developing strategies to improve pesticide application safety.

### Workgroup Meetings

As part of their review, the workgroup held four all-day meetings over the summer of 2018 to hear from state agencies, organizations and individuals involved in pesticide application safety such as members of the agricultural workforce, pesticide applicators, farming industry and health practitioners. Here are summaries of each meeting:

#### June 21, 2018, J.A. Cherberg Building - Legislative Campus, Olympia, WA

The kickoff meeting familiarized the workgroup with an overview of state regulations and history of pesticide use in Washington. Program experts from various state agencies gave presentations on federal and state laws, compliance programs, data collected regarding human pesticide exposure, and an overview of the former PIRT panel. The Washington State Board of Health summarized a Health Impact Review for SB 6529 to explain how the original bill would have impacted health and health disparities.

#### July 16, 2018, Port of Quincy and field locations in Grant County, Quincy, WA

This meeting focused on farm equipment used for spraying and the advancement of new technology. Workgroup members participated in a site visit tour to witness how spray equipment (airblast sprayers, row crop sprayers and aerial sprayers) are used in the field.

Additional presentations focused on how new technology can increase pesticide safety and existing laws that regulate pesticide labeling.

#### August 15, 2018, Opportunities Industrialization Center of WA, Yakima, WA

This meeting narrowed in on what's being done to reduce and respond to pesticide exposure. State agencies presented information on pesticide exposure investigations. A program administrator from Kern County, CA, gave an overview of laws in California and their local pesticide notification program. An agricultural workforce panel discussed effective strategies in minimizing human exposure to pesticides. A panel composed of clinicians and community health practitioners gave perspectives from the medical field regarding human exposure to pesticides.

#### September 11, 2018, J.A. Cherberg Building - Legislative Campus, Olympia, WA

At the final meeting, the Washington State Department of Agriculture (WSDA) provided an overview of their pesticide training programs which included: Handler, Worker Protection Standards, Train the Trainer, Spanish-language Pesticide Applicator License Training, Sprayer Calibration and Best Management Practices. Former PIRT panel members gave historical perspectives on their involvement and ideas for re-establishing a similar panel. Workgroup members discussed presentations to begin identifying initial findings and recommendations.

#### Stakeholder Communication and Participation

The Washington State Department of Health (DOH) frequently used email to notify stakeholders about upcoming meetings and opportunities to provide comments or testimony to the workgroup. Written public comments were also accepted. Stakeholders participating and attending the meetings included, but were not limited to, members of the agricultural workforce, labor groups/advocates, farm industry, aerial applicators, and health clinicians and practitioners. All materials and presentations can be found on the Washington State Department of Health's website at

<https://www.doh.wa.gov/DataandStatisticalReports/EnvironmentalHealth/Pesticides/Applicati onSafetyWorkgroup>

## Report Content

The legislation tasks the workgroup with developing recommendations for improving the safety of pesticide applications. As a result, report content focuses on "...any findings, recommendations, and draft legislation" reflecting this legislative intent. This report was drafted by staff at the Washington State Department of Health and reviewed by members of the pesticide application safety workgroup who support the content.

## Workgroup Findings

The workgroup identified a number of similar themes from the presentations, background materials, and public comments. These themes include training, PIRT panel, data, use reporting, notification, exposure reporting, communication, and new technology.

### Findings related to Training

- The availability of WSDA pesticide-related trainings do not meet agricultural community requests. Funding limitations and a lack of staff resources are contributing to an inability to train more people.
- WSDA's training program has seen tremendous growth since 2002. Every year, additional courses have been offered. Attendance has increased from 150 to 2,800 people per year with demand exceeding capacity.
- Industry and individuals express high satisfaction with the quality of the current trainings offered by WSDA.
- Most of the current trainings are for pesticide handlers, and some for farm owners, managers and supervisors. There appears to be a training gap between pesticide applicators and fieldworkers about leaving or not entering an area undergoing pesticide treatment or recently treated areas.

### Findings related to PIRT

- There was value gained from the former PIRT panel and the annual report, not only for Washington, but for other states as well. Examples included:
  - Monitoring and assessing risks of pesticide use.
  - Compiling and analyzing pesticide use data from the various agencies.
  - Strategizing outreach efforts to reduce risk of exposure.
  - Discussing current science and difficult cases/investigations.
- Defining the scope of a new pesticide application safety panel that would build on the previous PIRT panel will be important to make progress on improving the safety of pesticide applications.
- The former PIRT panel lacked representation from two key stakeholder groups: the agricultural workforce and industry.

### Findings related to Data

- WSDA, DOH, and the Washington State Department of Labor and Industries (LNI) collect pesticide exposure and investigation data to meet the needs of their individual mandated program responsibilities. These data are currently difficult to link together due to various system limitations, different identification/tagging definitions, and statutory mandates.
- State agency data could be better linked to tell the story of how pesticide exposure is handled between agencies.
- Pesticide suppliers have developed technology that can reduce the record-keeping burden on farmers/growers by providing real-time accurate data for every pesticide application. Some farm industry data may already exist.

### Findings related to Use Reporting

- A lack of pesticide-application baseline data makes it difficult for agencies, policy makers, and pesticide users to reach any conclusive findings on whether current practices, trainings, etc. are improving. For example, without data it is difficult to measure variations in exposure compared to overall pesticide application.
- The majority of the agricultural industry is opposed to a mandatory notification and use reporting system.
- Farmers/growers have practical concerns about their ability to comply with new laws requiring use reporting and notification.

### Findings related to Notification

- Many farmers use the same spray apparatus for different products, whether for pesticides or other crop protection products such as sunscreen. Some members of the agricultural applicator community routinely notify neighboring farms before spraying pesticides or crop protection products and would appreciate other farms doing the same. Proactive communication to schools/day care facilities could help protect students from pesticide drift exposure by following best practices such as keeping students indoors and closing windows or ventilation systems. However, applications must be done in proper weather conditions particularly around sensitive areas.
- Neighbor notification of pesticide application in Kern County, CA, has led to fewer cases of exposure. However, it is unclear whether this is due to the notification system or some other factor(s).

### Findings related to Exposure Reporting

- Under-reporting pesticide exposure is a concern. Not enough information is available to determine the reasons for under-reporting.
- Anyone handling pesticides is at risk. Based on investigation data, it has been found that in some areas Latinos are disproportionately affected by pesticide exposure.
- Lack of exposure reporting makes it unclear for state agencies, industry, members of the agricultural workforce, and public health professionals whether there are overall fewer exposures or less toxic exposures.

### Findings related to Communication

- The agricultural workforce may not understand they have a right to vacate dangerous working conditions, such as areas where a spray apparatus is operating, or other hazardous conditions. Some may not understand the risk of pesticide exposure and will not vacate a field because they may feel they will face loss of income or retaliation.
- Some agricultural workforce communities expressed concerns about not having sufficient representation to have a voice in issues surrounding pesticides.
- Language barriers between employers and employees could place employees at risk. The agricultural workforce is largely Spanish-speaking, with varying levels of written literacy. In addition, more individuals who speak languages other than Spanish or English are entering the agricultural workforce. This may limit English proficiencies and could create other barriers to understanding materials commonly written in English.
- State agencies need to understand more about community awareness regarding the risk of pesticide exposure among neighboring properties such as schools and residential areas.

### Findings related to New Technology & Best Practices

- Use of technology to better adjust to field conditions provides applicators customized options to improve the safety of pesticide applications. New application technology equipment (such as air blast sprayers) can reduce

drift exposure events but the technology is expensive for small operations or beginning farmers.

- Applicators believe that providing field workers with bright/reflective vests and hats would help pesticide applicators see members of the agricultural workforce and further decrease unintended exposure when spraying.
- There is a great degree of variability in pesticide application equipment and methods in terms of the risk of offsite drift and human exposure.

## Workgroup Recommendations

The workgroup found consensus around two immediate actions that could improve pesticide application safety: expanded training and establishing a new pesticide panel. It is clear that additional training is necessary because 1) high demand exists from pesticide applicators and handlers; and 2) WSDA lacks sufficient resources to meet such demand. Establishing a new pesticide panel provides an opportunity for the group to evaluate and recommend policy options, and investigate exposure cases. Through these types of activities, the panel could make recommendations to agency staff or legislative committees to improve the safety of pesticide application.

### Recommendation #1: Expanded training

Recommendations:

- Increase training opportunities.
- Increase funding to meet demand.

Description: With additional funds, the WSDA technical and education program could provide pesticide safety training for workers who have never received training or have not received training recently. Training should continue to emphasize safety, especially for pesticide applicators and handlers. The funds would allow more training dates to be available during the program's limited six-month training period.

In Washington, the tree fruit industry is one of the largest agricultural producers and employs the majority of pesticide handlers and agricultural workers within the agricultural industry. Air-blast sprayer technology is used in the tree fruit industry as well as in berry, grape and hop production. Based on these facts, the increasing acreage grown, and production in these industries, WSDA's pesticide education program will emphasize their efforts to assist these sectors to help minimize the risk of pesticide exposure cases. An additional training would be the **Pesticide Sprayer Calibration and Optimization** course. This course would be directed at

the tree fruit industry and customized for other crop types with an emphasis on precise pesticide applications and exposure prevention.

Additional resources would fund the necessary staff to expand and provide other innovative and critical training courses. Funds would also be used to purchase the sprayer equipment, supplies, and tools. WSDA would need to hire four additional staff members for the training program.

## Recommendation #2: Form a new pesticide application safety panel

Recommendations:

- Create a new panel (building on the former PIRT panel) with clear scope, responsibilities, and defined roles for agencies and all involved.
- The panel should include the agricultural workforce and industry groups.
- The panel should focus on pesticide application safety with agricultural applications as the first priority.

Description: The panel would benefit most by having a clearly defined scope to focus on specific issues. Establishing subcommittees with expertise on certain issues could also help inform the panel. Legislation implementing the panel should articulate specific goals, timeframe and reporting requirements, as well as the ongoing need for the panel to continue convening after two biennia.

## **Topics a Pesticide Application Safety Panel Might Consider**

The panel may evaluate and recommend policy options for any of the following recommendations as they relate to the identified themes:

### Recommendations related to Data

- Explore how WSDA, LNI and DOH (and possibly Washington Poison Center) could collaboratively collect and track data for a shared database. DOH could use existing tools such as the Washington Tracking Network to better track data regarding pesticides.
- Attempt to establish baseline data for the type and quantity of pesticide applications used in Washington to be able to compare number of exposures with overall number of applications.

### Recommendations related to Use Reporting & Communication

- Research ways to improve pesticide application communication among different members of the agricultural community.
- Investigate possibilities for the use of industry's best practices to improve pesticide application safety.

### Recommendations related to Exposure Reporting

- Continue to investigate reasons why members of the agricultural workforce do not or may not report pesticide exposure.
- Explore new avenues for reporting with investigation without fear of retaliation.
- Work with stakeholders to consider trainings for how and when to report.

### Recommendations related to New Technology

- Explore incentives for using new technology by funding a partial buy-out program for old spray technology. Explore the development of proximity alarms for members of the agricultural workforce and application equipment.

### Recommendations related to Supporting Best Practices for Prevention

- Consider developing and funding an effective community-health education plan. Consult with community partners to enhance educational initiatives that work with the agricultural workforce, their families and surrounding communities to reduce the risk of pesticide exposure.
- Enhance efforts to work with pesticide manufacturers and Environmental Protection Agency to improve access to non-English pesticide labeling in the U.S.
- Work with research partners to develop and/or promote use of translation apps for pesticide-label safety information.
- Evaluate prevention techniques to minimize exposure events.

- Develop more Spanish-language and other language educational materials for distribution, including through social media, app-based learning for agricultural workforce communities.
- Explore development of an agricultural workforce education safety program to improve the understanding about leaving an area being sprayed.
- Work with industry and the agricultural workforce to improve protocols and best practices for use of personal safety equipment for applicators and reflective gear for the general workforce.

## Conclusion

While the safety of pesticide application in Washington has improved, the consensus of the workgroup is that more opportunities exist to further minimize the health effects of pesticide exposure. The workgroup believes this is best realized through expanded training opportunities and establishing a pesticide application safety panel of experts to identify further potential solutions. The workgroup concludes that draft legislation is warranted to expand funding for a training program and set up a new pesticide application safety panel with clear objectives.

# Appendices

## Appendix A: Pesticide Application Safety Workgroup Members

	<b>Name</b>	<b>Association</b>
Co-Chair	Senator Rebecca Saldaña	Senate Democratic Caucus
Co-Chair	Representative Tom Dent	House Republican Caucus
Legislative Member	Senator Judy Warnick	Senate Republican Caucus
Legislative Member	Representative Javier Valdez	House Democratic Caucus
Legislative Member	Representative Joe Schmick	House Republican Caucus (Alternate)
Legislative Member	Senator Curtis King	Senate Republican Caucus (Alternate)
Legislative Member	Representative Beth Doglio	House Democratic Caucus (Alternate)
State Agency Member	Lauren Jenks	Department of Health
State Agency Member	Ignacio Marquez	Department of Agriculture (WSDA)
State Agency Member	Robin Schoen-Nessa	WSDA
State Agency Member	David Morales	Commission on Hispanic Affairs (CHA)
State Agency Member	Lisa Van der Lugt	CHA
State Agency Member	Beth Vandehey	Department of Labor and Industries (LNI)

State Agency  
Member

Ryan Allen

(LNI)

State Agency  
Member

Calvin Ohlson-Kiehn

Department of Natural Resources (DNR)

## Appendix B: Acknowledgements

The Pesticide Application Safety Workgroup would like to thank all of the many people and organizations that helped contribute to the meetings, offered public comments, and hosted field site visits or facilities.

This includes but is not limited to:

Joanne	Prado	DOH
Joel	Kangiser	WSDA
Kelly	Cooper	DOH
Kelly	McLain	WSDA
Mike	Dexel	DOH
Tammy	Fellin	Labor and Industries
Wayne	Clifford	DOH
Ofelio	Borges	WSDA
Pedro	Serrano	Labor and Industries
Lindsay	Herendeen	State Board of Health
Gwen	Hoheisel	WA State University
Scott	Rawlins	Wilbur-Ellis Company
Kent	Karstatter	RJK Farm LLC
Mark	Brown	Quincy Flying Service
Adam	Weber	Weber Farms
Scott	Nielsen	WSDA
Bruce	Christian	Labor and Industries
Glenn	Fankhauser	Agricultural Commissioner, Kern County, CA
Eric	Gonzalez	WA State Labor Council
Martin	Garcia	Pesticide Applicator
Hector	Maldonado	First Generation Farmer
Nathan	Marchello	Fred Hutchinson Cancer Research
Aaron	Anderson	Yakima Valley Farmworkers Clinic
Matt	Keifer	Puget Sound VA
Megan	Dunn	WA State PTA & NW Center for Alternatives to Pesticides
Eddie	Kasner	Pacific NW Agricultural Safety & Health Center
Richard	Fenske	Pacific NW Agricultural Safety & Health Center
Michael	Yost	Pacific NW Agricultural Safety & Health Center
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Erica	Liebelt	WA Poison Center

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