

POLICY BRIEF: PESTICIDE DRIFT

January 27, 2017

GOAL: To establish policies that improve awareness and notification of pesticide drift to reduce potential exposure.

PROBLEM STATEMENT

Pesticide drift happens when chemical pesticides move through the air away from the intended target. While the use of pesticides in farming is a regular practice and there are application instructions to avoid unintended exposure, it is not uncommon for errors or changes in conditions to result in pesticide drift. When pesticides move away from their intended target, farmworkers in adjacent farms and neighboring communities and business are at risk for the many negative health and economic impacts that result from pesticides.

Nearly all pesticides have some risk of harmful health effects. The type and severity of health effect is determined by the class of pesticide and how a person is exposed (e.g. inhalation, ingestion, skin or eye contact). The Washington State Department of Health (DOH) has summarized the different types of health effects that result from pesticide exposure into five main groups¹:

- **Acute effects** are typically mild symptoms that appear within 24 hours of exposure and diminish once exposure ends. These includes headaches, nausea, vomiting, dizziness, coughing, skin irritation, and more.
- **Chronic effects** are when illnesses or injuries that result from pesticide exposure persist over time, such as cancer and genetic changes.
- **Allergic effects** occur in some people when they have or develop allergies to pesticides. Symptoms of those allergic to pesticides and are exposed can include asthma, skin or eye irritation, and sneezing.
- **Developmental effects** including damage to the central nervous system and reproductive system can have negative effects on the physical and mental development of a child. The risk for such developmental effects can result from exposure to pesticides both while in utero or after a child is born and is in the formative years of development.
- **Reproductive effects** from pesticide exposure can occur in both men and women. This can include infertility, birth defects, miscarriages, and stillbirth.

All of these health effects are of concern to public health. However, this list only captures the *known* negative health effects. There are also other health risks that potentially result from exposure to pesticides and multiple chemical interactions that we do not yet understand. The University of California-Davis conducted a study in 2014 that found pregnant women living in

proximity to where certain pesticides were being applied had a 60% higher chance of having a child with autism spectrum disorder.ⁱⁱ This study was possible because California requires applicators to report their use records. Such results are highly concerning and warrant a public discussion about how to reduce exposure to pesticides.

There are many groups of people who are at risk for exposure to pesticide drift including farmworkers, people who live in neighboring communities, adjacent farms, and students at nearby schools. According to DOH, more than 100 public schools in Washington are located within 200 feet of agricultural operations and more than 200 are located within one-quarter mile. Such proximity to agricultural operations puts these schools at risk for exposure to pesticides when there are incidents of drift.ⁱⁱⁱ In 2015, a school in Grant County was a victim of pesticide drift and several employees sought medical treatment.

The Pesticide Illness Monitoring and Prevention Program at DOH states that they investigate about 300 pesticide-related illness cases each year. In addition, there were 300 cases of pesticide illness directly linked with agricultural drift between 2010 and 2014.^{iv} While these cases alone are of great concern, the true number of cases is likely much higher because many incidents go unreported. A case may not be reported to DOH if a health care provider fails to recognize an illness as pesticide-related, if the provider does not report the case as required by law,^v or if a person does not go to the doctor when they experience symptoms. Farmworkers in particular may refrain from seeking health care for pesticide-related illness because of the cost of time away from work, the cost of medical care, and fear of retaliation including potential job loss.^{vi}

VALUES STATEMENT

Given the numerous health effects that result from exposure to pesticides it is important to have strong policies in place that minimize exposure including from unintentional pesticide drift. One of the most effective ways to prevent exposure to pesticides is to minimize the chances of drift occurring in the first place by following all instructions for application. However, when drift does occur there need to be systems in place to protect public health. Current law makes some effort to limit pesticide exposure and maintain records in case of exposure. Examples of current law include the following:

Current Law – Recordkeeping, [RCW 17.21.100](#) & [WAC 16-228-1320](#)

All certified pesticide applicators are required by law to keep records of every application. Such recordkeeping must include information on the water to chemical ratio, targeted pests, apparatus used (i.e. air blast, fumigator), applicator's name, disperse rate, weather, time and location. These records must be kept for seven years after which time it can be destroyed. The applicators are only required to keep such records; they are not required to submit the information anywhere unless it is requested by agencies or qualifying industries.

Current Law – Notice of Pesticide Application, [WAC 16-233-125](#)

Under current law, agricultural employers are required to provide notification of pesticide application to their employees. Employers are allowed to do this either through oral or posted

notification. Oral notification is given directly to employees and must include location and description of the treated area and the length of restricted entry intervals (REI), which is the period in which no entry is permitted. If posted notification is used, there are some requirements including: size (the sign must be at least 14" x 16"), language (the sign must be in English and Spanish, or a language other than Spanish if it is the predominant language of the affected workforce), and the sign must be removed within three days of the expiration of the REI.^{vii} It is important to highlight that notification is only required for employees, not for neighboring or adjacent farms, schools, or communities.

While both of these policy approaches are well intentioned, they do not make information about pesticide drift risks available to all of the potentially impacted people and communities. They also do not make information more broadly available to the public, which is necessary for awareness and also further research.

POTENTIAL PREVENTION STRATEGIES

Given the significant health risks associated with exposure to pesticides through drift, it is important to establish prevention strategies that minimize exposure. The existing laws highlighted above both present areas where there is great opportunity to make significant progress in improving awareness and notice of potential pesticide exposure and risk.

Make Records of Pesticide Application Publically Available

One prevention strategy that would improve both research and public awareness about pesticide use and drift is to require the information already collected under the recordkeeping rules to be submitted to the Department of Health on a regular basis and then make that information available online to the public. Because the information is already gathered and kept for seven years, it would not be an added burden on pesticide applicators to submit the information to DOH. In addition, supporters of making pesticide use reporting (PUR) available to the public have proposed that the information would be aggregated in a way that protects the anonymity of the people and company who submit the data.

Having information available regarding what pesticides are used and where they are applied would help researchers to better understand the health impacts of pesticide exposure by, for example, overlaying pesticide use with health outcomes in communities throughout Washington. Moreover, such information can help families looking to purchase a home make a more informed decision and can also better inform school districts of potential pesticide drift areas.

Expand Notice and Modernize Notification Method

Another opportunity for improved notice and public awareness regarding potential incidents of pesticide drift is to expand notice requirements and modernize the methods of notification. As described above, employers are currently only required to notify employees when a pesticide is going to be applied. There are no requirements to notify neighboring farms, schools, businesses, or communities, where the majority of drift accidents have occurred. This current policy is insufficient and leaves those in close proximity to pesticide use vulnerable to exposure

without knowing it. A pesticide user should be required to provide written notice of intent to apply pesticides to any person, business, or entity that is located adjacent to the property where the pesticide will be used.

In addition, the method of notification in Washington is antiquated. Notification should be done in a way that is more accessible to those who may be impacted, such as by email or text message. With the advances of modern technology, making information more widely available to those who could be at risk if there is drift is a relatively simple task. Notice should also be provided with sufficient time to move or respond accordingly. A minimum of two-hour's notice should be given of potential pesticide use.

Making such changes to existing laws relating to pesticide use would both increase broader public awareness and would also improve public health by allowing people who could be exposed to pesticide drift to be informed and able to avoid exposure.

RESOURCES

[House Health Care & Wellness Work Session on Pesticide Drift](#) (Feb 10, 2016)

[Washington Tracking Network: A source for Environmental Public Health Data](#)

[CDC Morbidity and Mortality Weekly Report: Worker Illness Related to Newly Marketed Pesticides—Douglas County, WA](#) (2015)

[UW Review of Agricultural Spray Notification Systems](#) (2016)

[Pesticide Data Report Washington State](#) (2013)

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For more information please contact:

Julie Peterson | Senior Director of Policy | Foundation for Healthy Generations | juliep@healthygen.org

ⁱWashington Department of Health, *Pesticides*, <http://www.doh.wa.gov/CommunityandEnvironment/Contaminants/Pesticides>

ⁱⁱShelton, et al. Environmental Health Perspectives, *Neurodevelopmental Disorders and Prenatal Residential Proximity to Agricultural Pesticides: The CHARGE Study* (October 2014) <https://ehp.niehs.nih.gov/1307044/>

ⁱⁱⁱ Washington Department of Health, *Schools and Pesticides*, <http://www.doh.wa.gov/CommunityandEnvironment/Schools/EnvironmentalHealth/Pesticides>

^{iv} Washington Tracking Network, Washington Department of Health. *Pesticide Drift*. Data obtained from the Department of Health's Pesticide Program. Published January 2017. <https://fortress.wa.gov/doh/wtn/WTNPortal/>

^v WAC 246-101-101, <http://app.leg.wa.gov/wac/default.aspx?cite=246-101-101>

^{vi} Washington Department of Health, *Protecting People from Pesticide Illness*, <http://www.doh.wa.gov/AboutUs/ProgramsandServices/EnvironmentalPublicHealth/EnvironmentalPublicHealthSciences/Pesticides#Investigations>

^{vii} Washington Department of Agriculture, *Compliance Activities*, November 3, 2016. <http://agr.wa.gov/PestFert/Pesticides/ComplianceActivities.aspx>