



research for healthy workers, strong communities & productive agriculture

The Pacific Northwest Agricultural Safety and Health (PNASH) Center, established in 1996 through the NIOSH/CDC Agricultural Initiative, conducts research and develops resources to promote best safety and health practices for Northwest producers, workers, and communities in farming, fishing, and forestry.

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RESEARCH

Forestry Workforce Location- and Wearable-based Activity Recognition for on-the Job Digital Health and Safety Metrics (Keefe, PI, Zimbelman Co-I, NIOSH 2022-2027)

Logging is among the most dangerous professions in the United States, with manual felling of timber with chainsaws and setting of cable log chokers accounting for 47% of injuries. Building on a recent PNASH pilot project, a library of wearable- and location-based human activity recognition (HAR) models will be developed and coded into a smartwatch app prototype. This technology aims to prevent injuries by improving loggers' situational awareness by providing real-time updates of their coworkers' work activity status and location.

Respiratory Exposures and Health Effects for Cannabis Workers (Simpson & Sack, PIs, NIOSH 2022-2027)

There has been a dramatic expansion of the Cannabis industry, yet very little is known about the occupational hazards and potential health effects for workers involved in Cannabis cultivation. Recent pilot studies have demonstrated that these workers are exposed to a variety of respiratory hazards and may be at increased risk. This panel study aims to evaluate and prevent exposures that lead to occupational lung diseases, particularly work-related asthma.

The Healthy Dairy Worker Study (Rabinowitz, PI, NIOSH 2016-2023)

This partnership study with WSU will enroll new workers in the dairy industry and evaluate microbiome changes over time. We will characterize worker exposures to microbes and allergens and evaluate whether these exposures impart immune benefits (the 'hygiene hypothesis'), and/or increase risk of disease, including infection and airway inflammation. This study will help identify priorities for preventive interventions and healthy host adaptation to the dairy environment.

PREVENTION AND INTERVENTION

Engineering Solutions to Reduce Pesticide Exposure and Waste on Northwest Fruit Farms (Kasner, PI, NIOSH 2022-2027)

This project evaluates emerging pesticide application technologies and educational programming as interventions for breaking the pesticide exposure pathway on Northwest fruit farming systems. A broad network of Northwest partnerships will inform assessments on uses for precision agriculture and corresponding impacts on pesticide safety and health.

A Multi-level Approach to Heat Related Illness Prevention in Agricultural Workers (Spector, PI, NIOSH 2016-2023)

Building on previous heat-related illness (HRI) studies, this project developed and evaluated a multi-level approach to address HRI for farmworkers in the tree fruit industry. The project developed the HEAT Toolkit and tested research questions such as whether night-time heat conditions contribute to risk for HRI during work.

Visit <https://deohs.washington.edu/pnash/heat-toolkit>

Injury and Illness Prevention in the Pacific Northwest for the Dairy Industry (Yost, PI, NIOSH 2016-2023)

Dairy workers in Washington have an injury claim rate 72% higher than the state average. The hazards of animal-related injuries, slips, trips, and falls are exacerbated by a growing hired workforce that has little previous experience in this industry. This project delivered and tested new worker safety training programs, including to newly hired workers. The project, conducted in partnership with WSU and the Washington State Dairy Federation now offers the Dairy Safety Toolkit.

Visit <https://deohs.washington.edu/pnash/dairysafetytoolkit>

DATA TRACKING

Tracking Agriculture, Forestry, and Fishing Health Indicators: RISC Agriculture

(Bovbjerg, PI Oregon State University, NIOSH 2022-2027)

Fatal and non-fatal injuries in the agriculture, forestry, and fishing sectors remain both elevated and poorly documented, compared to other work settings. This project expands on the current Risk Information System for Commercial (RISC) Fishing to encompass farming, fishing, and forestry in the NW (Alaska, Idaho, Oregon, Washington) and engages advisors in analysis with PNASH's interactive data dashboard.

Safety Surveillance for Pacific Northwest Fisheries (Kincl, PI, Oregon State University NIOSH 2016-2023)

This OSU research team has developed a system to address severe non-fatal injuries in NW commercial fishing by assessing vessel disaster and casualty data collected by NIOSH and the USCG. The project also includes casualty and safety data from insurance claims and primary data collection. This data system offers a practical surveillance systems for hazard assessment and for evaluation of programs for interventions in the commercial fishing industry.

EDUCATION

Fishermen Led Injury Prevention Program (FLIPP) for Lifejackets Mobile Program

(Kincl, PI Oregon State University, NIOSH 2022-2027)

In commercial fishing, fatalities occur when those lost were not wearing a lifejacket. Technological advances in lifejackets could address some of the barriers fishermen have to wearing them while working (comfort, accessibility, confidence) and to improve the flotation and survivability. This educational study will collect fishermen's views and experiences related to vessel safety including use of lifejackets, and then launch a region-specific promotion campaign.

Practical Solutions for Pesticide Safety (Galvin, PI, NIOSH 2016-2023)

This project identified and evaluated solutions that farm managers, forest service managers, and pesticide handlers can implement to minimize pesticide exposures. Workers and managers were engaged in walk-through evaluations and field testing to identify key safety issues and novel solutions, and share solutions.

Visit http://depts.washington.edu/pnash/practical_solutions

Etiquetas Bilingües de Pesticidas/Bilingual Pesticide Safety (Yost, PI, Multiple Sponsors 2017-2021)

PestiSeguro™/PestiSafe™ is now released – sign-up at <https://deohs.washington.edu/pnash/PestiSafe>.

Offering English & Spanish Labels on mobile phones for agricultural pesticide application. This new product addresses a gap in access for Spanish-speaking pesticide handlers, and provides over 300 pesticide product labels for specialty crops in Washington and Oregon.

PNASH SMALL GRANTS - Pilot Project Program & Outreach Mini-grants

Each year, PNASH awards small grants throughout the Northwest (AK, ID, OR, WA) through two different grant programs. One supports new and innovative pilot research studies. The other funds small community education projects to industry and service organizations. Learn more at <https://deohs.washington.edu/pnash/opportunity>

PNASH EDUCATIONAL RESOURCES

Video YouTube Channel (ENG/SP) <https://www.youtube.com/user/USagCenters>

Hazard Self-Assessment Tool (HSAT) <https://sites.google.com/boisestate.edu/potential-hazards/hsat-forms>

Dairy Safety Toolkit (ENG/SP) <https://deohs.washington.edu/pnash/dairysafetytoolkit>

Heat Education & Awareness Tools (HEAT) (ENG/SP) <https://deohs.washington.edu/pnash/heat-toolkit>

iBasta! Prevent Sexual Harassment in Ag (ENG/SP) <https://deohs.washington.edu/pnash/sexual-harassment>

Practical Solutions for Pesticide Safety (ENG/SP) http://depts.washington.edu/pnash/practical_solutions

Forestry Services Safety Resources (ENG/SP) <http://deohs.washington.edu/pnash/forestry-services>

Fishermen Led Injury Prevention Program (FLIPP) <https://health.oregonstate.edu/labs/osh/resources/flipp>

Other resource pages: Potato hazards, Orchard Injuries, Nitrates & well water, etc. <http://depts.washington.edu/pnash>