Project title: Prevention of Occupational Exposures to Pesticide Drift
Principal investigators: Richard Fenske, PhD, MPH
Graduate Student Investigator: Edward Kasner

ABSTRACT

Introduction. Pesticide drift has been a long-standing concern in Washington. In May 2014, the Washington Department of Health (WA DOH) issued a press release about 60 workers who became ill in 15 drift events over a 2 month period, which is as many cases as the agency's epidemiological surveillance program normally sees in one year (WA DOH 2014). Unfavorable wind conditions and applicator behavior have been identified as leading contributing factors for acute illnesses resulting from occupational drift exposure in Washington (Lee et al. 2011; Calvert et al. 2015).
Study approach. WA DOH gathers a suite of information about illnesses resulting from drift events, but it does not systematically gather weather or land use data. We will work with WA DOH to link historical weather and land use data to 283 reported drift events (762 cases) between 2000 and 2015. We will characterize the risk of occupational drift exposure, expand epidemiological surveillance, test novel drift exposure measurements, and implement exposure prevention strategies.
Expected results, outcomes, and output. Compared to "non-drift days," we expect to find that "drift days" will have: (1) higher frequency in orchard regions, (2) higher early-season frequency over time, (2) greater wind speeds, and (3) larger, more frequent wind direction changes. Findings from this work will be published in two peer-reviewed research articles and applied to the efforts of state government partners who train certified pesticide applicators and other agricultural workers.
Applicability of results to MA/AF mission. This study marks the first time that occupational health drift incident data will be paired with historical weather and land use data over a large period of years. Study findings will impact state partner data collection techniques, enhance exposure prevention training, and contribute to understanding and preventing drift exposure—a major reason for pesticide-related illnesses among Washington agricultural workers.