

Withdrawn

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**A Pilot Study on Migrant Grape Workers Exposure to Pesticides in Sonora, Mexico**

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**Abstract:** Expanding agribusiness in Sonora, a state in Northern Mexico known for its cattle, tomato, and table grape production, has increased the demand for temporary migrant agricultural workers from the poorest regions of Southern Mexico. These migrant agricultural workers participate in strenuous tasks while exposed to a wide variety of occupational risks and hazards including pesticides. A cross-sectional observational study was conducted to assess the pesticide exposure of migrant grape workers. This is the first study to characterize exposure of migrant grape workers to pesticides in this region. A convenience sample of 20 participants were recruited from a large commercial grape farm employing approximately 2,000 workers during the harvest season near Hermosillo- Sonora, Mexico. A questionnaire was used to obtain information on working activities and demographics. Morning void urine samples were collected to assess pesticide exposure. Most participants were originally from the state of Chiapas-Mexico, none had completed high school, and half spoke an indigenous language. Pyrethroid and organophosphate urine metabolites were detected in the majority of workers. The creatinine-adjusted concentration for cyfluthrin, chlorpyrifos, and parathion metabolites in urine obtained in this study (geometric means: 0.942 µg/g, 3.559 µg/g and 1.630 µg/g, respectively) were higher than in the Mexican American population included in NHANES. Unfortunately, there is no study of the general population in Mexico for comparison. Our results suggest that grape workers in this region are exposed to high levels of pesticides, which may, eventually, affect their health. Additional research is needed to confirm these findings and to evaluate health outcomes associated to pesticide exposure in this region. Results from this pilot study can be used to conduct a larger pesticide study, create binational partnerships between researchers, and develop occupational health training resources in Mexico.

Keywords: A-biomonitoring, D-occupational, B-pesticides, A-environmental justice, A - population exposure

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# ABSTRACT BOOK



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