

## **CHEMICAL HAZARDS TO THE NEUROBEHAVIORAL HEALTH OF AGRICULTURAL WORKERS**

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An estimated 3.2 million agricultural workers in the United States may be at risk of multiple exposures to known or suspected neurotoxic chemicals (e.g., pesticides, fumigants, solvents, metals and gases). These chemicals can produce immediate, delayed or chronic impairments of behavior and neurologic function, including sensory, cognitive and motor abilities. Neuroanatomic or neurochemical damage may accompany behavioral deficits, but often such damage is undetectable before the onset of functional impairment. Current knowledge of the impact of neurotoxicants on agricultural workers is largely derived from controlled laboratory and field studies intended to assess the acute effects of single compounds or compound classes (e.g., organophosphate pesticides). Few studies address the neurobehavioral health of agricultural workers after repeated exposures to multiple chemicals. This presentation describes advances in selected neurobehavioral test methods, proposes a strategy for application in field studies, and suggests a research agenda for the surveillance and assessment of neurobehavioral health among agricultural workers.

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