

## Abstracts

Clinical Toxicology Downloaded from informahealthcare.com by CDC Information Centre on 10/04/10  
For personal use only.

## 198. Pesticide Exposure in Spouses from the Farm Family Exposure Study

Baker BA, Alexander BH, Mandel JS, Acquavella JF, Chapman P. *Regions Hospital, St. Paul, MN, School of Public Health, University of Minnesota, Minneapolis, MN; Rollins School of Public Health, Emory University, Atlanta, GA; Monsanto Company, St. Louis, MO, Exponent Inc, Menlo Park, CA.*

*Background:* The Farm Family Exposure Study was designed to characterize pesticide exposure to farm family members around the time of pesticide application. *Methods:* Farm families were recruited from lists of licensed pesticide applicators in Minnesota and South Carolina. Twenty-four-hour urine samples were collected 1 day before, the day of, and 3 days after application of glyphosate, 2,4-D or chlorpyrifos. A field researcher observed potential exposure opportunities during 106 pesticide applications (10 involving more than 1 pesticide). Spouses completed questionnaires that recorded farm-related activities and other potential routes of pesticide exposures. *Results:* The spouses had significantly less pesticide exposure than the farmer or children. Only 8% of spouses had detectable urine glyphosate after application. Sixty-eight percent of spouses had quantifiable 2,4-D concentrations postapplication (mean 1.4 ppb) compared with 41% preapplication (mean 1.0 ppb). One spouse had a significant increase in TCP (a chlorpyrifos metabolite) concentrations postapplication although all had detectable levels of TCP (geometric mean 4.5–4.9 ppb). Dose estimates derived from the urine levels will be presented. *Conclusion:* Spouses had lower urine pesticide levels than applicators or children. Spouses may be exposed during mixing or loading of pesticides but were less likely than children to be involved in mixing or applying pesticides. Pesticide levels varied according to which chemical was applied, and chemical-specific properties are probably important when evaluating exposure. *Conflict of Interest:* John Acquavella works for Monsanto, which manufactures glyphosate.