

## Indoor exposure to pyrethroid pesticides following fogger use or crack and crevice treatment by homeowners

### AGRO 132

James J. Keenan, [jkeen001@ucr.edu](mailto:jkeen001@ucr.edu)<sup>1</sup>, Yanghong Li, [yanhong.li@email.ucr.edu](mailto:yanhong.li@email.ucr.edu)<sup>1</sup>, R. Shane Gold<sup>2</sup>, Xiaofei Zhang, [zhangxiaofei@hotmail.com](mailto:zhangxiaofei@hotmail.com)<sup>1</sup>, Gabriele Leng<sup>3</sup>, and Robert I. Krieger, [bob.krieger@ucr.edu](mailto:bob.krieger@ucr.edu)<sup>1</sup>. (1) Department of Entomology, Personal Chemical Exposure Program, University of California, Riverside, 900 University Ave, Riverside, CA 92521, (2) Brigham Young University-Hawaii, Laie, HI 96762, (3) Bayer Industry Services, Leverkusen, Germany

Pyrethroid products are extensively used in residential pest management. This study involved use of a crack and crevice spray (Air Devil™ HPX) with 0.1 % cypermethrin and a fogger (Raid Deep Reach™ Fogger) with 1.7 % cypermethrin. Families included 42 children (< 12 years old) and 52 teens/adults (≥ 12). Total µg/kg pyrethroid equivalents following crack and crevice treatment were 1.5 ± 1.1 and 0.55 ± 0.21 µg/kg for children and teens/adults after 8 days, respectively. Total µg/kg pyrethroid equivalents following fogging were 11 ± 8.3 and 2.6 ± 1.65 for children and teens/adults after 8 days, respectively. After use of foggers exposure was still above background on day 8 while after crack and crevice exposure did not increase above background on any day following application. Back-calculated exposures below known LOAELS and regulatory NOAELs for cypermethrin indicate about a 4-fold greater elimination of pyrethroid equivalents by children than teens/adults.

[Agrochemical Education Awards For Graduate Student Travel: Research Poster Presentations](#)

1:00 PM-5:00 PM, Tuesday, 12 September 2006 Moscone Center -- Hall D, Poster

[Sci-Mix](#)

8:00 PM-10:00 PM, Monday, 11 September 2006 Moscone Center -- Hall D, Sci-Mix

[Division of Agrochemicals](#)

[The 232nd ACS National Meeting, San Francisco, CA, September 10-14, 2006](#)