

*Children's Health Protection Advisory Committee*

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November 15, 2005

Stephen L. Johnson, Administrator  
 United States Environmental Protection Agency  
 Ariel Rios Building  
 1200 Pennsylvania Avenue, N.W.  
 Washington, DC 20460

RE: Recommendations Regarding Protecting Farmworker  
 Children From Exposure to Pesticides

Dear Administrator Johnson:

The Children's Health Protection Advisory (CHPAC) recently conducted a review of pesticide-related health risks to the children of farmworkers. We began by reviewing previous CHPAC letters to the EPA (including FACA to EPA correspondence from 1999) and then focused on research and policies addressing: 1) exposures levels in pregnant women and children, 2) pesticide residues in homes and cars, 3) pesticide drift, 4) the Worker Protection Standard (WPS), and 5) gaps in research (see Attachment 1). From this information we concluded that farmworker children are not adequately protected and that a number of risk-reduction actions can be taken now. We also found areas where scientific evidence is lacking and recommend that EPA support additional research in targeted areas of inquiry. In conducting our review, we also came to the conclusion that children are best protected through primary prevention measures. We urge the EPA to support agricultural practices that use fewer pesticides, less toxic pesticides, and alternatives to pesticides. We also encourage the EPA to involve all stakeholders (e.g., pesticide manufacturers, growers, and workers) in the development of strategies aimed at reducing risks to farmworker children and pregnant women.

The CHPAC's recommendations fall into two categories, short-term and long-term. Short-term recommendations focus on strengthening the WPS, and reducing exposures from pesticide drift.

Our long-term recommendation focuses on reducing data gaps through research.

November 15, 2005

Page 2

### **A. Strengthening the WPS**

The Worker Protection Standard (WPS) sets forth grower responsibilities for pesticide safety requirements to protect farmworkers and their children from exposure. In reviewing WPS policies and implementation issues, the CHPAC concluded that much more can be done to reduce risks to farmworker children. Our recommendations can be implemented today, and include:

1. **Training to Modify Worker Behaviors:** The WPS requires that workers receive training every five years. The CHPAC believes this is inadequate and recommends that training be provided annually to both field workers and pesticide handlers. Training should be expanded to include information about take home exposure pathways, risks to family members from take home exposures, pesticide toxicity, and health risks to infants, children, and pregnant women. Workers also need to be educated about practical risk reduction actions (e.g., changing clothes and showering before going home) and how these actions can help protect their family.
2. **Hazard Communication:** EPA is considering adding hazard communication information to the WPS. We endorse this concept and suggest that workers be provided with a simplified safety handout addressing: 1) the short- and long- term health effects of pesticides used at that particular workplace, 2) safety precautions (e.g., restricted entry intervals) and 3) first aid information. This brochure should be provided by pesticide manufacturers, and be linguistically-, culturally-, and educationally-appropriate for farmworkers. The use of pictograms and other low-literacy health information techniques should be investigated.
3. **Access to Changing Facilities at the Work Site:** Because most farms lack places for workers to wash or change their clothes, pesticide residue remains on workers' hair, clothes and shoes when they return home. Children can be exposed to pesticide residue when they hug their parents at the end of a work day. Providing workers with a place to wash and change clothes before returning home will help protect their children from pesticide exposure. Employers should be required to provide farm workers with an area to store clean clothes, change clothes and shoes, and wash, so that pesticides will not be carried from work to home. These washing areas provide a logical place for permanently displaying safety information that shows workers that protecting themselves is part of protecting their children.
4. **Protecting Young Farmworkers: Reducing Exposures While Mixing, Loading, and Applying:** Under current policy, farmworkers must be at least 16 to mix, load and apply toxicity category I and II pesticides. However, some categories III or IV pesticides have been associated with long-term health effects, including cancer or adverse reproductive effects. In 2000, the National Institute of Occupational Safety and Health recommended that the Secretary of Labor designate all pesticide handling activities as "hazardous" in order to prevent farmworker

children under age 16 from engaging in such activities. We recommend that the EPA adopt this NIOSH recommendation. Because growth and development of many organ systems continues into late adolescence, we hope that EPA, with its fellow agencies, also will develop ways to enhance protection for the 16-20 year old age group.

5. Ensure Young Farmworkers: Respiratory Protection: Under OSHA's standard workers who use respirators must be medically cleared and have the respirator properly fitted to their face. For youth (ages 16 and older) who need to use a respirator, EPA regulations should be expanded to address respirator fit testing for farmworkers. This change would provide farmworkers with the same level of protection that all other workers receive under OSHA.
6. Strengthen WPS Enforcement. Compliance with the WPS and the prohibition against children mixing, loading and applying certain pesticides needs to be improved. However, states currently impose few penalties for violations of these provisions. Consequently, employers have little economic incentive to obey the law. For example, in California (often considered to have a strong state pesticide program), state data indicate that for the period 1997-2000, worker safety laws were violated in 41% of reported poisoning cases involving agricultural workers. Fines were issued for less than 20% of these violations, and the vast majority were for less than \$400. Workers also rarely report violations because they fear employer retaliation. The CHPAC urges EPA to improve enforcement of the WPS and related safety laws. This should include a requirement that states issue meaningful fines for violations found, that complaints of worker poisoning or employer retaliation be prioritized and promptly and thoroughly investigated, and that EPA issue an annual report summarizing enforcement activities (e.g., number and type of violations found, penalty imposed, if any, etc.).

#### **B. Reducing Exposures from Pesticide Drift**

Children living in agricultural areas are potentially exposed to drift at home and at school. Child protective policies need to consider the evolving science addressing pesticide drift as well as the realities of field work, living conditions, cumulative exposures, and the proximity of agriculture fields to housing, schools and day care settings. By taking preventive actions to protect farmworker children, all children may be protected as well.

Further work is needed to understand the effects of secondary as well as primary drift. To date EPA's models have focused primarily on modeling dispersion patterns from primary drift (e.g., dispersion at the time of application); such models do not account for exposures to secondary drift (e.g., revolitalization and/or windblown dust) and thus underestimate exposure.

1. Require prior notification of pesticide spraying: All families, farmworker and non-farmworker alike, should be informed about spray drift that can potentially affect them. Requiring applicators to notify nearby people (i.e., all areas where children live, work, and play) of spraying will allow them to take risk reduction actions (e.g., shutting windows, bringing children inside) if they so choose. These types of common sense strategies can foster trust between growers and local residents as well as reducing risks to local children. The EPA should require notification of pesticide spraying as well as investigating ways to reduce the burden of notification on growers.
2. Explore the effectiveness of no-spray buffer zones: Preliminary evidence suggests that buffer zones around homes, schools, and parks may be child-protective. Many school districts have already adopted no-spray policies on district properties. Buffer zones around schools have the potential to protect large numbers of children; their effectiveness should be evaluated.
3. Develop and field-test comprehensive drift models: It is critical to have pesticide drift models that focus on human health as well as ecologic risks. We recommend that EPA consider the development of new and/or expanded models that account for exposures from both primary and secondary pesticide drift. Models should be tested by comparing predicted drift to actual field measurements of drift.
4. Develop specific drift-control strategies: EPA should use current information to develop compound and/or classification-specific drift control strategies. Such strategies need to consider common types of application (e.g., aerial, air blast), spray release height, and meteorological conditions. In addition, the EPA should also require pesticide labels to include clear instructions on application in different types of wind and temperature conditions. Such information, based on modeling, should take into consideration the drift potential of that formulation.

### **C. Reducing Data Gaps Through Research**

While mindful of special considerations regarding human subjects protection related to intentional dosing and the applicability of the National Children's Study, the CHPAC makes the following research recommendations to obtain critical knowledge for informed decision making:

1. Conduct research addressing the environmental transformation products of pesticides: We do not understand the relationship between exposure to environmental transformation products of pesticides and measured human urinary metabolites. In addition, population-based metabolite data are lacking on children under age six, a potentially vulnerable age group. Research is underway that quantifies how much of a metabolite is attributable to the parent compound as opposed to direct exposure to the environmental transformation product. This is a general issue, but is particularly urgent in regards to organophosphates and their urinary metabolites. We want to











