

US EPA ARCHIVE DOCUMENT

Consistent Risk Assessment for Pesticide Exposures

PPDC Meeting

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Deborah Smegal, MPH

Office of Pesticide Programs

OPP Proposed Policy December 2009:
***Revised Risk Assessment Methods for Workers, Children
of Workers in Agricultural Fields, and Pesticides with
No Food Uses***

- Strengthen and improve the consistency in the risk assessment process for all pesticide exposures
 - Consistently apply risk assessment techniques developed in FQPA 1996 implementation
- Address environmental justice concerns and improve children's health protections for pesticides.
 - Farm workers, farm children
- Applies to agricultural, antimicrobial and biochemical pesticides
- Phased Implementation

OPP Proposed Policy December 2009

Workers/Non-Food Use Risk Assessment

Overview

- Consistent application of uncertainty factors to protect children as scientifically appropriate, where the available data are incomplete or otherwise warrant its application;
- Consider aggregate exposures to pesticides from multiple sources for worker and non-food use assessments;
- Consider cumulative effects that may occur from exposure to multiple pesticides with a common mechanism of toxicity for workers and children in agricultural fields;
- Report potential risks for individuals who had not been explicitly considered, specifically youth workers, and young children taken into agricultural fields while their parents work; and
- Evaluate by-stander exposure to children and adults from spray drift and/or volatilization.

UF in Worker/Non-Food Use Assessments

Proposed Policy:

- Consistent application of uncertainty factors to protect children
 - Consistency for pregnant/nursing women in residential and occupational settings
 - Consistency for children (e.g., turf exposures for food and non-food use pesticides)
- Not a default 10X to all worker/non-food use assessments
- Workers/Non-food use assessments still regulated under FIFRA (Risk/Benefit).

Consistent Application of UF

- **One of several, generally 10-fold factors:**
 - Intraspecies – variability among humans
 - Interspecies – extrapolating animal data to humans
- **UF to protect children (fetus, infant, child) (considered in FQPA SF):**
 - LOAEL to NOAEL,
 - Subchronic to chronic,
 - Incomplete database,
 - Comparative sensitivity in young (e.g., CCA),
 - Exposure data are inadequate to assure the RA is protective (rare),
 - Hazard data are inadequate, but a specific study to address the inadequacy is not available.
- Maximum UF= 3000

Aggregate Risk in Proposed Policy

- Consider aggregate exposures to pesticides from multiple sources (e.g., food, drinking water, residential, or occupational) for worker and non-food use assessments;
- Current worker assessments only evaluate dermal and inhalation exposures and would be modified to also consider food and drinking water exposures as appropriate;
- Children's exposures from non-food uses (e.g., turf, indoor uses) would be aggregated to consider all potential exposures (including drinking water, if appropriate)
- Implications:
 - Aggregation of worker/children exposures may result in greater risk estimate, but will better reflect reality (e.g., workers eat too).
 - For workers, likely that risks will be dominated by occupational exposures (i.e., food/water small risk contributor)

Cumulative Risk In Proposed Policy

- For workers and children in agricultural fields consider cumulative effects that may occur from exposure to multiple pesticides with a common mechanism of toxicity
 - Organophosphates (OPs)
 - N-methyl carbamates (NMCs)
 - Triazines
 - Pyrethroids
 - Chloroacetanilides (alachlor, acetochlor, butachlor).
- Common mechanism group guidance document that received public and SAP review

New Scenarios: Youth Workers and Farm children

Evaluate pesticide exposures to:

- Adolescent workers age 12 – 17, who are legally allowed to work in agriculture, and child workers < 12 yrs who work on family farms
 - 26 youth worker studies and scientific literature
 - Preliminary evaluation indicates current worker exposure assessment methods protective of younger workers (12+ yrs)
 - Consider if existing hazard assessment (POD/UF) is protective of youth workers
- Young children taken into agricultural fields while their parents work
 - 100+ literature studies related to “farm children”
 - Exposure assessment methods must be developed

New Scenarios: Youth Workers and Farm children

- Risk management conducted under FIFRA (Risk/Benefit).
 - Any exposure related to occupational setting
 - Exposure/risk assessment for youth workers and farm children brought into the fields while their parents work.
- Seeking information on:
 - Prevalence of youth in fields
 - Activities
 - Exposure assessment methodology

By-Stander Exposures

Proposed Policy:


- Evaluate exposure to children and adults from spray drift and/or volatilization
 - December 2009 FIFRA SAP on exposures from volatilization of pesticides;
 - Draft Drift Labeling Pesticide Registration Notice;
 - EarthJustice/Farmworker Justice Petition on Protecting Children from Pesticide Drift.
- By-stander exposure would be aggregated with food/drinking water exposures as appropriate

Public Comments to Date

- 25 Comments as of April 26th:
 - Additional UF to protect children
 - Science Issues
 - Aggregate and cumulative assessments
 - By-stander risk assessment rather than default buffers
 - REIs
 - Data requirements; more animal testing
 - Adolescents are not adults; puberty considerations
 - Farm children
 - Literature studies related to farm children; concerns about exposure, prenatal exposure, delayed effects
 - Legal Issues
 - Improve enforcement of existing laws and WPS
 - Maintain FIFRA risk/benefit standard

Next Steps

- Consider comments from stakeholders, and public (comment period closed April 12)
- Time to implement policy
- Complex science issues to address (aggregate, cumulative, volatilization, farm children)

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- Docket:
 - EPA-HQ-OPP-2009-0889
 - Contact Information:
 - Smegal.Deborah@epa.gov
 - 703-308-0175