

US EPA ARCHIVE DOCUMENT

# Occupational Pesticide Incident Project



Pesticide Program Dialogue Committee  
June 2006



# OUTLINE

- ◆ **NEED**
- ◆ **PLANS**
- ◆ **STAKEHOLDER INPUT**



# How many occupational pesticide incidents are there each year in the United States?

- A. 1300**
- B. 1500 – 6000**
- C. 10,000 – 40,000**
- D. 20,000 – 40,000**
- E. 300,000**
- F. All of the Above**
- G. None of the Above**



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  - G. None of the Above**
- A. Poison Control Center (handlers and agricultural workers)**
  - B. SENSOR, extrapolated to the US: (handlers and agricultural workers)**
  - C. Agricultural worker poisonings based on an EPA estimate in 1992 WPS RIA**
  - D. Council of State and Territorial Epidemiologists, (quoting an uncited EPA reference)**
  - E. NEETF's National Pesticide Practice Skills Guidelines for Medical and Nursing Practice, unattributed reference to EPA's estimate of 300,000 acute poisonings (agricultural workers)**



# Why is there so much difference among these counts?

- ◆ **Multiple data sources - There is no comprehensive database or program that aggregates information for pesticide health incidents. Among the multiple databases that collect data there are a number of variables.**
- ◆ **Contents**
  - ◆ **Designed for different purpose,**
  - ◆ **Lack of detail (Ex., exposure cause).**
- ◆ **Definitions of occupational incident vary, for example:**
  - ◆ **Perception and concern for exposure,**
  - ◆ **Exposure with no symptoms,**
  - ◆ **Exposure with health impacts,**
  - ◆ **Pesticide related health impacts confirmed by a medical practitioner or government employee,**
  - ◆ **Confirmed health effect reported correctly to tracking system.**



# Why is there so much difference among these counts?

- ◆ **Calculation Differences:**
  - ◆ **Variability in who is included: Applicators, handlers, agricultural field workers.**
  - ◆ **No standard methodology for national extrapolation of estimates based on limited geographical data.**
  - ◆ **Sources were developed for a variety of uses, primarily as surveillance to observe trends in health concerns, not for arriving at point estimates for poisonings**
- ◆ **Under-reporting:**
  - ◆ **No universal, mandatory duty to test/report,**
  - ◆ **Common symptoms may mask correct diagnosis,**
  - ◆ **Difficulty in identifying and tracking chronic effects,**
  - ◆ **Reluctance or impaired capacity to report,**
  - ◆ **Incomplete tracking systems – geographical,**
  - ◆ **Inadequate resources to operate & maintain costly data collection, recording, confirmation and reporting systems.**



# Why is Incident Information Important?

**Public Health Protection Goal - Those exposed to pesticides in occupational setting face increased potential risks for health impacts: routine exposure; pesticides which may present more hazard than those used in a residential setting.**

**Lack of accurate information on the number and nature of incidents:**

- ◆ **Inhibits Clear Problem Identification**
- ◆ **Impairs Fact-based Decision-making & Priority Setting**
- ◆ **Confuses Risk Communication**
- ◆ **Muddies Performance Accountability**
- ◆ **Impacts Enforcement Targeting**



# Why is Incident Information Important?

## Primary Uses of Occupational Incident Information:

- ◆ **Programmatic Risk Reduction**
  - ◆ Risk assessments & risk management decisions
  - ◆ Enhancing incident avoidance & response
  - ◆ Establishing program & resource priorities
  - ◆ ID'g strengths/weaknesses to develop new and modify existing programs to better protect workers
  
- ◆ **Risk Communication – Nature, extent & severity of incidents.**
  - ◆ Decision makers – Congress, OMB, Federal managers
  - ◆ Active Stakeholders and the general public
  
- ◆ **Performance Accountability**
  
- ◆ **Enforcement**



# Occupational Pesticide Incident Project

## ◆ Goals

- ◆ Make better use of incident data
- ◆ Improve meaningful and consistent communication of occupational pesticide incident information
- ◆ Improve quality of data

## ◆ Means

- ◆ Improve analysis and ease of use
- ◆ Integrate with Performance Accountability Systems
- ◆ Strengthen incident data sources
- ◆ Prepare a Report on Occupational Incidents



# Activities to Date

- ◆ **Linked to Upgrade of Strategic Plan Accountability Measures & Targets.**
  - ◆ **Comparative Analysis of Strengths and Limitations of Occupational Incident Databases.**
  - ◆ **Calculation of National Potential Pesticide Risk Events**
  - ◆ **Worker Safety Strategic Goal:**
    - **Through 2011, protect those occupationally exposed to pesticides by improving or sustaining the extremely low rate of 3.5 or less incidents per 100,000 potential risk events. (Comparison of Potential Risk Events to poison Control Centers' Toxic Exposure Surveillance System)**
- ◆ **Sharpened appreciation of incident deficiencies.**



# Approximately how many people are at risk? How many potential risk events are there?

## How many are at risk?

- ◆ 1.8 million agricultural workers
- ◆ Occupational Users
  - ◆ 1.1 million certified applicators
  - ◆ 4 million Restricted Use Pesticides (RUP) applicators under the supervision of certified applicators
  - ◆ 2.5 million other occupational users (not using RUPs)

## How many potential risk events are there?

- ◆ Using low-end estimates for the annual number of exposures,
  - ◆ Ex. 5 potential risk events per farm worker/year
  - ◆ Ex. 4 applications/year/occupational user
- ◆ Estimates approximately **39,850,000** potential risk events per year.



# How are these people protected?

**Reduce Risk by changing  
pesticide risks, uses,  
requirements**

**Incident Prevention:**

**Use Restrictions**

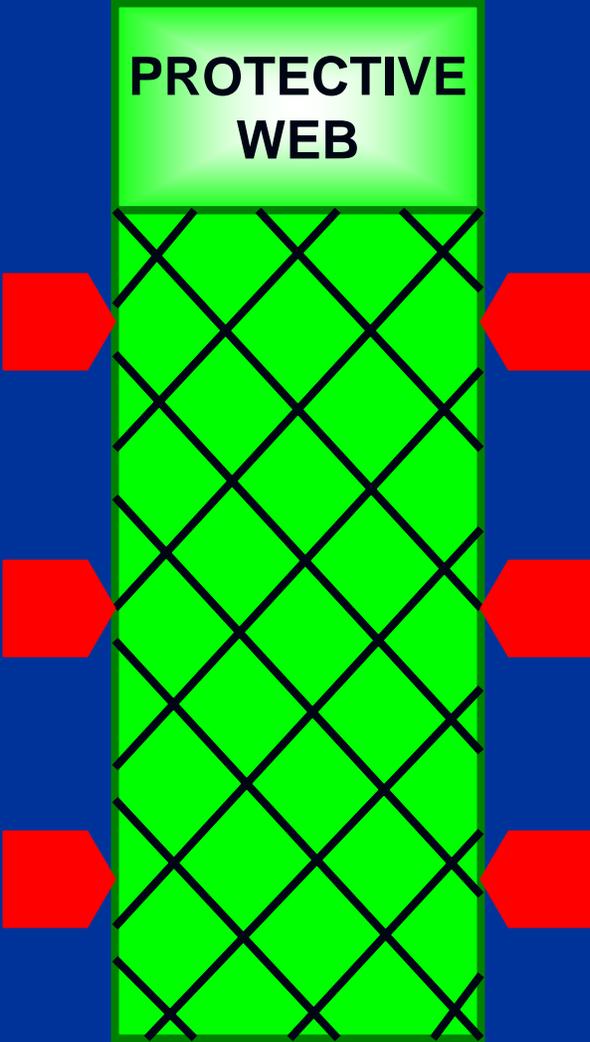
**Reduced Risk Pesticides**

**Re-entry Intervals**

**Worker Safety Standard**

**Personal Protective  
Equipment**

**PROTECTIVE  
WEB**



**Reduce Risk by changing  
worker knowledge  
& practices**

**Incident Prevention:**

**Training**

**Hazard Communication**

**Outreach Campaigns**

**Effective Response:**

**Hotline**

**Health Care Education**

**Sound Data to Drive**

**Sound Decisions**

**Useful Communication**

## Need/Data Source Crosswalk

<b>Program Need</b>	<b>Type of Information</b>	<b>Measurement Target</b>	<b>Data Source</b>
<b>1. Programmatic Risk Reduction</b>	<b>Incident Causes Trends</b>		<b>SENSOR Enforcement Actions</b>
<b>2. Risk Communication</b>	<b>Program Progress</b>		<b>All</b>
<b>3. Performance Accountability</b>	<b>Strategic Outcomes</b>	<b>Occupational Incident Numbers</b>	<b>CDC/TESS</b>
<b>4. Enforcement</b>	<b>Compliance Status</b>	<b>Reduced Violations</b>	<b>Enforcement Tracking</b>

# Qualities of an Ideal Incident Database

- ◆ **Data Quality**
  - ◆ **Representative**
  - ◆ **Credible**
  - ◆ **Adequate detail and appropriate information**
  
- ◆ **Functionality**
  - ◆ **Ease of use**
  - ◆ **Clearly understandable**
  
- ◆ **Availability**
  - ◆ **Reasonable cost**
  - ◆ **Sustainable**



# Potential Data Sources - Health Incidents

- I. Sentinel Event Notification System for Occupational Risk (SENSOR-Pesticides)**
- II. California DPR's Pesticide Illness Surveillance Program (PISP)**
- III. Poison Control Centers - Toxic Exposure Surveillance System (PCC/TESS)**
- IV. FIFRA 6(a)2**
- V. National Pesticide Information Center (NPIC) hotline**
- VI. National Pesticide Medical Monitoring Program (NPMMP)**
- VII. State Workers' Compensation reports**
- VIII. State Cholinesterase monitoring (WA and CA)**
- IX. National Hospital Ambulatory Medical Care Survey (NHAMCS) Emergency Room data base**
- X. Agricultural Health Study**



# Potential Data Sources - Enforcement

- I. National Compliance Data Base [FIFRA/TSCA Tracking System]**
- II. State and EPA's National Pesticide Field Database (NPFDB)**
- III. California DPR's Pesticide Illness Surveillance Program (PISP)**
- IV. States' Compliance Action Tracking Systems (CATS)**



# Potential Data Sources - Supporting Data

**Data are important in understanding the context of agricultural worker and pesticide issues: pesticide use patterns, migrant worker demographics.**

- **NAWS – Department of Labor’s National Agricultural Workers Survey collects demographic information for agricultural field workers**
- **BLS – Bureau of Labor Statistics collects information about wages, salaries, and numbers of employed workers.**
- **Pesticide Usage Data – amount of pesticide used on crops; by state. Includes USDA/NASS, Doane, and California’s Pesticide Use Reporting data sets**
- **Certified Applicator numbers – Applicators who are certified to use Restricted Use Products**



# Summary of Worker Health Incident Databases

- ◆ **All have different strengths and limitations:**
  - ◆ **Granularity**
    - **Causality**
    - **Severity**
  - ◆ **Geographic representativeness**
  - ◆ **Cost**
  - ◆ **Under-reporting**
  - ◆ **Variety of case definitions**



# Potential Improvements in Databases

## **PCC (Poison Control Centers)**

- ◆ **Promote Poison Control Centers toll free number (1-888-222-1222) as the national hotline to report poisonings**

## **FIFRA 6(a)2 reporting**

- ◆ **Update reporting requirements**
- ◆ **Make database more user-friendly**
- ◆ **Facilitate electronic reporting**

## **SENSOR (CDC's Sentinel Event Notification System for Occupational Risk – Pesticides)**

- ◆ **Support expanded coverage to key agricultural states (NC...) & types of details requested.**

## **NPFD (National Pesticide Field Database)**

- ◆ **Expand database fields to collect data necessary for measures development**
- ◆ **Increase number of states reporting**



# Occupational Incident Report

## ◆ Contents

- ◆ Compilation of incident data & trends,
- ◆ Demographics of the worker populations,
- ◆ Context of value and use of incident data,
- ◆ Narrative discussion: strengths/weaknesses of the data and steps to address,
- ◆ Overview of enforcement,
- ◆ Analysis and interpretation.

## ◆ Format

- ◆ Graphics heavy,
- ◆ Brief – 20 pages

## ◆ Logistics

- ◆ Frequency of report – 3 to 5 years
- ◆ Paper and web availability



# Issues & Questions

- ◆ How should we define “Incident” for different purposes?
- ◆ Relative value/use of data sources?
  - ◆ Potential extrapolations from data.
  - ◆ Essential caveats.
- ◆ Other potential data sources?
- ◆ Where to focus efforts on improving data sources?
- ◆ Incident Data Report
  - ◆ Contents/Coverage
  - ◆ Format
  - ◆ Logistics



## Next Steps & Stakeholder Input

- ◆ **Summer 2006 - Distribute document describing databases comparison for comment. Seek input on Report approach, sources and logistics.**
- ◆ **Begin using new Strategic Plan Targets in FY 2007 and modify/refine internal commitment process for supporting output activities and reporting procedures.**
- ◆ **Seek opportunities for greater analysis and use of incident data in Registration Review.**
- ◆ **Work with others to strength data sources.**
- ◆ **Prepare initial draft Report.**
- ◆ **FY 2007 – Issue initial Occupational Incident Report.**

