

US EPA ARCHIVE DOCUMENT

Registration Review and Water Quality

Pesticide Program Dialogue
Committee, May 4, 2012

Overview

- Background
- Guidance for submission of water monitoring data
- Use of modeling and monitoring data in pesticide aquatic exposure assessments
- Process improvements

Background

- Over 300 of 745 registration review cases opened with requests for water monitoring data
- Some cases under review (e.g., organophosphates and pyrethroids) are associated with impaired water bodies
- Objective is to address water quality issues attributed to pesticides, and reduce potential for future issues

2006 Impaired Water Pilot

- OPP, OW, 4 EPA Regions and 7 states tested process for gathering state water quality data
- OPP reviewed data and provided feedback on our ability to use it in risk assessments
- Resulted in 2007 Standard Operating Procedure (SOP) for the submission of state/tribal monitoring data

2007 SOP Highlights

- Options for providing data
 - STORET (let OPP know where it is located)
 - Submission by the state or tribe
- Minimum data elements
 - Date, ID, location, media sampled, concentration, LOD/LOQ, method, reference
- Additional information to aid in interpretation
 - Purpose of study, QA/QC, timing of sample, sample method
 - Land use, pesticide usage, environmental conditions

Aquatic Exposure Assessment



- Estimate pesticide levels in water
 - What are the risks?
 - Who or what is exposed to what, how much, where, how long?
- Screen out unlikely concerns
- Account for variability in
 - Location (water source, pesticide use, environmental factors)
 - Time (daily, seasonal, yearly)



Why use a model?

- Estimate pesticide concentrations in water
- Aids in interpreting available monitoring data
- Integrate environmental fate data for pesticide and its degradation products into quantitative assessment
- Provides an estimation on frequency of pesticide occurrence

Where Do Monitoring Data Fit In?

- How monitoring data are used depends upon the nature of the data
 - Strong context to help explain variability
 - Frequent sampling (multiple years)
 - Targeted sampling (use area and season)
- Monitoring and modeling generally complement each other, strengthen assessment

Modeling and Monitoring

- Monitoring tends to underestimate frequency of occurrence & acute exposure – peaks are often missed.
- Monitoring generally more useful as a lower bound or for longer-term exposure estimates
- Model inputs can be adjusted so they are more or less conservative – used to control uncertainty

Monitoring Overview

- Agency makes use of all monitoring data of which it is aware
- Data sources include federal, state, academic, and other sources.
- Data varies tremendously in quality.
- How the monitoring results are used depends upon the nature of the data.
- Ancillary data enables interpretation of monitoring results.

Process Improvements

- Increased communication and coordination –
OPP-OW-EPA Regions (pesticides & water)-
States (lead pesticide and water agencies)
- Targeted outreach to Regions/States with
imminent risk assessments
- Registration review schedule -- docket
openings per quarter