

US EPA ARCHIVE DOCUMENT

AGENDA
FIFRA SCIENTIFIC ADVISORY PANEL (SAP)
OPEN MEETING
May 12-15, 2009

FIFRA SAP WEB SITE <http://www.epa.gov/scipoly/sap/>
OPP Docket Telephone: (703) 305-5805
Docket Number: EPA-HQ-OPP-2009-0104

U.S. Environmental Protection Agency
Conference Center - Lobby Level
One Potomac Yard (South Bldg.)
2777 S. Crystal Drive, Arlington, VA 22202

**Scientific Issues Associated with The Ecological Significance of
Atrazine Effects on Primary Producers in Surface Water Streams in the Corn
and Sorghum Growing Region of the United States (Part II)**

Please note that all times are approximate (see note at end of Agenda).

Tuesday, May 12, 2009

- 9:00 A.M. Opening of Meeting and Administrative Procedures** – Sharlene Matten, Ph.D., Designated Federal Official, Office of Science Coordination and Policy, EPA
- 9:10 A.M. Introduction and Identification of Panel Members** – Steven Heeringa, Ph.D., FIFRA Scientific Advisory Panel Chair, Daniel Schlenk, Ph.D., FIFRA Scientific Advisory Panel Session Chair
- 9:20 A.M. Welcome and Opening Remarks** – Steven Bradbury, Ph.D., Deputy Director, Office of Pesticide Programs (OPP), EPA
- 9:30 A.M. Goals and Objectives** – Donald Brady, Ph.D., Director, Environmental Fate and Effects Division (EFED), OPP, EPA
- 9:40 A.M. Introduction and Background** – Mark Corbin, M.S., Senior Environmental Scientist, EFED, OPP, EPA
- 10:10 A.M. BREAK**
- 10:25 A.M. Method for Assessing Ecological Levels of Concerns for Atrazine Exposures in Freshwater Systems** – Russell Erickson, Ph.D., Research Chemist, Mid-Continent Ecology Division, Office of Research and Development, EPA
- 12:00 P.M. LUNCH**
- 1:00 P.M. Analysis of the AEEMP: Characteristics and Extent of Watersheds that Exceed the Atrazine LOC** – Nelson Thurman, M.S., Senior Science Advisor, EFED, OPP, EPA
- 2:15 P.M. Examination of an Approach for Translating Plant Assemblage Toxicity Index Risk Factors into Water Quality Criteria Concentrations** – Charles Delos, M.S., Environmental Scientist, Health

and Ecological Criteria Division (HECD), Office of Science and
Technology (OST), Office of Water (OW), EPA

2:45 P.M.

BREAK

3:00 P.M.

PUBLIC COMMENTS

5:30 P.M.

ADJOURN

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Wednesday, May 13, 2009

- 9:00 A.M. Opening of Meeting and Administrative Procedures**
Sharlene Matten, Ph.D., Designated Federal Official, Office of Science
Coordination and Policy, EPA
- 9:05 A.M. Introduction and Identification of Panel Members**
Daniel Schlenk, Ph.D., FIFRA Scientific Advisory Panel Session Chair
- 9:15 A.M. PUBLIC COMMENTS Cont'd**
- 10:15 A.M. BREAK**
- 10:30 A.M. PUBLIC COMMENTS Cont'd**
- 12:00 P.M. LUNCH**

1:00 P.M. CHARGE TO PANEL: Model Effects Index (MEI) (Questions 1-3)

The foundation of the US EPA methodology for specifying levels of concern (LOCs) for atrazine exposures in natural freshwater systems is the relationship of atrazine exposure to effects on aquatic plant community structure and function in microcosm and mesocosm (cosm) studies. Comparing effects among the different atrazine exposure time-series in the cosm studies and extrapolating effects to other exposure time-series in natural systems requires an effects model that can be applied to any exposure time-series to provide a consistent, quantitative index for toxic effects on the plant community (Model Effects Index, MEI). MEI values for cosm exposures are used to develop an LOC for the MEI (LOC_{MEI}) that best discriminates between cosm exposures with and

without significant effects. MEI values for exposures in natural systems can then be evaluated relative to this LOC_{MEI} .

Question 1: The effects models considered in this document require effects concentrations (ECs) from single-species plant toxicity tests with atrazine that are consistent with respect to the nature and magnitude of the toxic effects. Reports on and reviews of such tests provide ECs that vary widely in meaning, so a new review was conducted and test results were used to develop a compilation of plant specific growth rate vs. concentration relationships (Section IV.B). **Please comment on the strengths and limitations of this review and synthesis of plant toxicity tests for providing toxicity sensitivity distributions for use in the atrazine assessment methodology.**

2:30 P.M. BREAK

2:45 P.M. CHARGE TO PANEL: QUESTION 2

Question 2: One source considered for the desired MEI is the Comprehensive Aquatic Systems Model (CASM), a community simulation model. In response to a previous SAP review, this model was modified to give a more realistic, dynamic simulation of a Midwestern stream ($CASM_{ATZ2}$). Sensitivity analyses for this revised model were conducted, including some additional analyses suggested in the previous SAP review. These analyses indicated considerable sensitivity of risk determinations to the selection of species toxicity parameters and to various physicochemical variables (Section IV.C). This indicates that $CASM_{ATZ2}$ is more suitable for a site-specific, data-intensive assessment than the generic application that is desired for these atrazine assessments. **Please comment on the advisability and value of using $CASM_{ATZ2}$ for generic assessments given these findings and on the nature and feasibility of additional development efforts that would be needed to implement this model.**

4:00 P.M. CHARGE TO PANEL: QUESTION 3

Question 3: An alternative source considered for the desired MEI was an index of the severity of toxic impact on a plant assemblage (Plant Assemblage Toxicity Index, PATI) based directly on single-species plant toxicity relationships (Section IV.D). Please comment on the merits and limitations of this source for the MEI. Based on the coherence of risk evaluations between the PATI-based and the CASM-based methodologies, EPA has concluded that the additional processes included in CASM are not needed for the assessment methodology and that the PATI-based methodology should be adopted. **Please comment on the merits of this conclusion.**

5:30 P.M. ADJOURN

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Thursday, May 14, 2009

- 9:00 A.M. Opening of Meeting and Administrative Procedures**
Sharlene Matten, Ph.D., Designated Federal Official, Office of Science
Coordination and Policy, EPA
- 9:05 A.M. Introduction and Identification of Panel Members**
Daniel Schlenk, Ph.D., FIFRA Scientific Advisory Panel Session Chair
- 9:10 A.M. Follow-up from Previous Day's Discussion**
Environmental Fate and Effects Division, Office of Pesticide Programs, EPA
- 9:30 A.M. CHARGE TO PANEL: Agency's Watershed Analysis (Questions 4-5)**

The Agency identified three sites that exceeded the PATI LOC_{MEI} in multiple years and six sites that exceeded the LOC_{MEI} in one year (Section V). Based on the results of the Agency's watershed analysis in Section VI to identify additional sites that might exceed the atrazine LOC, US EPA proposes two questions for the SAP:

Question 4: Based on an analysis of watershed characteristics of the 40 monitoring sites, the US EPA concluded that the presence of soils that either have a high runoff potential or are in hydrologic soil group C or D, and have a shallow layer with a moderately low saturated hydraulic conductivity best distinguish sites that exceed the LOC in multiple years from those that do not exceed the LOC. **Please comment on the merits of the watershed criteria the Agency used to identify watersheds that might exceed the atrazine LOC.**

10:30 A.M. BREAK

10:45 A.M. Discussion of Charge Question 4 Cont'd

12:00 P.M. LUNCH

1:00 P.M. CHARGE TO PANEL: QUESTION 5

Question 5: Neither atrazine use intensity or rainfall data (annual or monthly) correlate positively with watersheds that exceed the LOC. The Agency noted that the monitoring site selection already focused on areas with sufficient atrazine use to potentially result in high atrazine exposures in streams. **Please comment on the Agency's proposed approach to establish a minimum criteria for atrazine use intensity (> 0.1 lb ai/A) and rainfall (>23 inches annually).**

2:30 P.M. BREAK

2:45 P.M. Panel Discussion

5:30 P.M. ADJOURN

Please be advised that agenda times are approximate; when the discussion for one topic is completed, discussions for the next topic will begin. For further information, please contact the Designated Federal Official for this meeting, Sharlene Matten, via telephone: (202) 564-0130; fax: (202) 564-8382; or email: matten.sharlene@epa.gov