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November 29, 2011

Wilhelmena Livingston
Office of Pesticide Programs (OPP)
Regulatory Public Docket (7502P)
U.S. Environmental Protection Agency (U.S. EPA)
1200 Pennsylvania Ave., NW.
Washington, DC 20460-0001

RE: Spinosad Registration Review (Docket Number EPA-HQ-OPP-2011-0667)

Dear Ms. Livingston:

The purpose of this letter is to provide comments on the registration review of the pesticide spinosad. We are pleased to have the opportunity to provide U.S. EPA with information that may help ensure the environmental risk assessment for spinosad is complete and accurate so that U.S. EPA can make a well-informed registration review decision. Our comments focus specifically on the environmental risks of spinosad discharges to publicly owned wastewater treatment plants (POTWs).

As background, Tri-TAC is a group formed to provide technical advice to State and Federal regulators on behalf of POTWs in California. The group is jointly sponsored by the California Association of Sanitation Agencies, the California Water Environment Association, and the League of California Cities. The constituency base for Tri-TAC collects, treats, and discharges or reclaims wastewater from more than 90% of the sewered population of California.

Tri-TAC members are very concerned about the potential water quality impacts from the discharge of pesticides into our municipal wastewater systems. These concerns have been expressed in our previous letters to U.S. EPA and in past letters from our colleagues at the Bay Area Clean Water Agencies (BACWA) and the National Association of Clean Water Agencies (NACWA).

In the current review of spinosad, Tri-TAC endorses the letter from CASQA, our colleagues in the stormwater arena. Their issues are slightly different from our own, but many of the same concerns of investigation and data gathering in U.S. EPA's review process are shared.

Tri-TAC's Interest in Spinosad

Spinosad is of special interest to POTWs due to its indoor uses, such as treatments of pets and surfaces that may subsequently be washed with water, such as pet living quarters. Spinosad use may increase if it serves as a substitute for

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pyrethroids, which are facing regulatory restrictions in the next year due to linkages with aquatic toxicity.

Pesticides used indoors are contained in the influent to POTWs as a natural consequence of their use, cleanup, and ultimate disposal. When used in pet products, residues are transferred to the pet's fur, from which they can be subsequently washed and discharged to the sewer system when the pet is bathed by owners, groomers, or veterinarians. Other indoor uses have indirect pathways to the sewer system through the cleaning of treated areas. Once in the sewer system, wash water carrying spinosad flows to POTWs.

Because POTWs were not specifically designed to treat pesticides, constituents such as spinosad that enter POTWs in the influent may ultimately be emitted to the environment. POTWs have three general types of emissions: water, solids, and air. The pathways of interest are likely to be water and biosolids. Treated effluent from a POTW will typically be discharged into creeks, rivers, estuaries, or the ocean. In some cases, waterways receiving discharges have little other flow (these are called "effluent dominated" waters). Recycled wastewater has growing use for irrigation, toilet flushing, industrial use, and groundwater recharge. Wastewater solids, commonly called sewage sludge or "biosolids," may be reused in agriculture or in urban gardens or disposed of in landfills.

POTWs are subject to National Pollutant Discharge Elimination System (NPDES) permits under the Federal Clean Water Act. In addition to the potential for adverse environmental impacts, non-compliance with Federal Clean Water Act requirements can be extremely costly for POTWs. Costs are incurred for identifying the source of the pollutants that have caused non-compliance with toxicity limits, source control to reduce the impacts of the pollutants, and construction, operation, and maintenance costs to upgrade POTWs with advanced treatment to remove pollutants that cannot be adequately reduced with source control. In some cases, operational issues arise in the biological processes of wastewater treatment as a result of pesticides.

Also, when surface water bodies become impaired by pesticides, POTWs discharging to the water bodies can be affected through additional requirements established as part of Total Maximum Daily Loads (TMDLs) set for the water bodies by U.S. EPA and state water quality regulatory agencies. The cost to POTWs to comply with TMDLs can be up to millions of dollars per water body per pollutant.

We request that U.S. EPA seek to obtain all data necessary to complete a careful review of spinosad's impacts on POTWs and therefore on water quality. The direction EPA has taken on pyrethroids like bifenthrin and permethrin is a good example.

Estimating Environmental Concentrations of Spinosad

The simple method of calculating national average indoor usage and estimating POTW discharge is not going to provide the necessary quality of analysis. Pesticide usage depends on climate, pest pressures, and other regional issues, causing substantial variation in POTW discharges. At present, it is unclear which uses are the source of most pesticide discharges (it could be pets or other indoor uses or cleanup from outdoor applications). This uncertainty would make it very difficult to determine which uses to include in the estimation. The outcome of such a simple calculation would not be sufficiently robust to form the basis for a decision with such significant financial implications for POTWs.

Further, EPA is asked to recognize cross-media transfer for this pesticide and to assess the environmental and management risks associated with spinosad in sewage sludge ("biosolids").

Down-the-Drain Assessment

Tri-TAC requests that EPA modify the use of the "down-the-drain" assessment to evaluate the impacts of spinosad sewer discharges. Although Tri-TAC supports the use of U.S. EPA's standard tool for down-the-drain assessments, Exposure and Fate Assessment Screening Tool (E-FAST) Version 2.0, we have concerns with the way that the Office of Pesticide Programs (OPP) has applied E-FAST. In response to past Tri-TAC comments, OPP has proposed to work with the Office of Water (OW) and stakeholders to refine the way it uses E-FAST.¹ In the past, OPP and OW have used different exposure periods and exposure frequencies in their ecological effects assessments. If these factors are not being addressed in the OPP/OW Common Effects Assessment Methodology project, we request that OPP work with OW to develop a means of avoiding regulatory inconsistencies. One option would be to modify OPP pesticide models to provide exposure estimates for multiple time periods, including time periods consistent with those used by OW.

POTW monitoring is the preferred means to determine whether spinosad or its degradates are present in POTW effluent or biosolids at levels that may be environmentally problematic. U.S. EPA should include POTW monitoring among the data requirements for spinosad and use monitoring data to provide input into E-FAST for the down-the-drain assessment. If influent, effluent, and biosolids POTW monitoring data are not available in time for the spinosad risk assessment or if available data are insufficient to account for the variety of POTW treatment processes and operational parameters utilized nationwide, EPA should use

¹ Meléndez, J. L.; Solliday, A.; Sappington, K.; U.S. EPA Office of Pesticide Programs Environmental Fate and Effects Division (2010). "Response to Public Comments on the EFED Registration Review Problem Formulation for Bifenthrin." Memorandum. December 22, pages 3-4.

conservative assumptions for spinosad and degradate partitioning and removal during wastewater treatment in the down-the-drain assessment.

Biosolids Land Application Assessment

Roughly, fifty percent of the total cost of wastewater treatment is expended on solids handling. Land application is a frequently used method for recycling biosolids. Since spinosad adsorbs strongly to organic matter, a portion of spinosad entering POTWs will likely partition into biosolids (either in the form of the parent or one of the stable degradates). As such, the spinosad environmental risk assessment should address biosolids as well as effluent. The analysis of this partitioning has largely been missing from prior studies. However, it is our understanding that U.S. EPA is open to including this component in pyrethroid registration reviews. The same precedent should be followed for spinosad.

Aquatic Toxicity and Environmental Fate Data

Acute and chronic toxicity data for freshwater and estuarine/marine fish and invertebrates are necessary to perform the down-the-drain and biosolids assessments. Tri-TAC recommends that EPA issue data requirements for spinosad and its major degradates that fill any gaps in available aquatic toxicity and environmental fate data, including environmental fate in POTWs. Since spinosad is a likely substitute for pyrethroids, the data requirements for spinosad and its major degradates should mimic the data requirements for pyrethroids undergoing registration review like bifenthrin and permethrin. These data are the minimum necessary for a scientifically sound environmental risk assessment.²

Conclusion

In conclusion, POTWs need EPA's assistance to protect surface water from contamination from pesticides. POTWs are required by NPDES permits to meet effluent toxicity standards; however our agencies do not have the authority to directly regulate the use of pesticides. When toxicity problems occur, they can be very costly for POTWs. Tri-TAC requests that U.S. EPA require the necessary aquatic toxicity and environmental fate data and that a down-the-drain assessment and a biosolids assessment be performed as part of U.S. EPA's registration review for spinosad.

² See data requirements in Solliday, A.; Federoff, N. E.; Meléndez, J. L.; U.S. EPA Office of Pesticide Programs Environmental Fate and Effects Division (2010). *Environmental Fate and Ecological Risk Assessment Revised Problem Formulation in Support of Registration Review for Bifenthrin*. December 22.

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Tri-TAC appreciates the opportunity to comment on this registration review. If you have any questions or require additional information, please contact Greg Kester by phone at (916) 844-5262 or by email at gkester@casaweb.org.

Sincerely,



Terrie L. Mitchell
Tri-TAC Chair

cc: Steven Bradbury, Director, U.S. EPA Office of Pesticide Programs
Rick P. Keigwin, Jr., U.S. EPA Office of Pesticide Programs, Pesticide Re-Evaluation Division
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