UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C., 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

May 17, 2010

Dave Winters, State Representative
District 68th
215-N Stratton Building
Springfield, IL 62706

Dear Representative Winters:

Thank you for your April 29, 2010, letter to Dr. Thomas Steeger requesting clarification on interactions between the U. S. Environmental Protection Agency (EPA) and Dr. Tyrone Hayes, a researcher at the University of California at Berkeley. Dr. Steeger is a Senior Science Advisor in the Environmental Fate and Effects Division (EFED) of which I am the Director. Dr. Steeger is one of many EPA science staff members who have contributed to the Agency's review of the potential effects of atrazine and its fate in the environment. As with most reviews conducted by EPA, the analysis of data and studies is not limited to a single individual but rather involves interdisciplinary scientific teams and multiple rounds of peer review. As such, rather than a response reflecting the perspective of a single science staff member I am providing the Division's response to the issues and questions you raised.

In your letter you asked whether EPA received [from Dr. Hayes] a complete, transparent set of raw data which could be interpreted and analyzed by the EPA and used in generating a full evaluation of his work. In addition, you asked whether EPA was in agreement with Dr. Hayes' findings. In response to your first question, I regret that the EPA science staff in the Office of Pesticide Programs' EFED could not properly account for the sample sizes and study design reportedly used by the Berkeley researchers. As a result, we were unable to complete any independent analysis to support the study's conclusions.

In response to your second question, EFED reviewed the research as reported by Dr. Hayes *et al.* in the paper entitled "*Hermaphroditic, demasculinized frogs after exposure to the herbicide atrazine at low ecologically relevant doses*"[1] published in the Proceedings of the National Academy of Sciences (PNAS) in March 2002. EPA provided its review of this paper as well as scientifically relevant information from 16 other available laboratory and field studies in an EPA document entitled "*White Paper on Potential Developmental Effects of Atrazine on Amphibians*"[2] (White Paper). The Agency presented its review to a Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) Scientific Advisory Panel Meeting (SAP) in June 2003. The White Paper concluded that because of limitations in all of the study methodologies reviewed, no reliable

[1] Hayes, T. B., A. Collins, M. Lee, M. Mendoza, N. Noriega, A. A. Stuart, and A. Vonk. 2002*a*. Hermaphroditic, demasculinized frogs after exposure to the herbicide atrazine at low ecologically relevant doses. *Proceedings of the National Academy of Sciences* 99 (8): 5476 - 5480

[2] http://www.epa.gov/scipoly/sap/meetings/2003/june/finaljune2002telconfreport.pdf

determination of cause-effect or concentration-response relationship could be established between atrazine and reported effects in amphibians. EPA acknowledged, however, that there was sufficient uncertainty in the full data set to warrant further study.

To address the uncertainties regarding whether atrazine could affect amphibian gonadal development, OPP in concert with the EPA Office of Research and Development proposed a tiered study design along with criteria for moving to higher tiers of refinement. The proposed tiered study design was presented to the FIFRA SAP later in 2003. The FIFRA SAP concurred with the EPA's conclusions regarding the study reviews and the proposed conceptual model to resolve the uncertainties regarding whether atrazine affects amphibian gonadal development[3]. As a result, the registrant was subsequently required to conduct the study as part of a Data Call-in (DCI).

In 2007, EPA presented its review of the studies conducted in response to the DCI as well as scientifically relevant information from 18 other available laboratory and field studies in an EPA document entitled "*White Paper on the Potential for Atrazine to Affect Amphibian Gonadal Development*".[4] Again, EPA presented its review to a FIFRA SAP and concluded that it was reasonable to reject the hypothesis formulated in 2003 that atrazine exposure can affect gonadal development. The Agency also determined hat there was no compelling reason to pursue additional testing with regard to the potential effects of atrazine on amphibian gonadal development.

I hope that this information adequately addresses your questions. If you have any additional questions, please let me know.

Sincerely,

Donald J. Brady

Donald Brady, Director
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[3] http://www.epa.gov/scipoly/sap/meetings/2003/061703_mtg.htm
[4] http://www.epa.gov/scipoly/sap/meetings/2007/october/2007_amphibian_white_paper.pdf