

## **G. Fred Lee & Associates**

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27298 E. El Macero Dr.  
El Macero, California 95618-1005  
Tel. (530) 753-9630 • Fax (530) 753-9956  
e-mail: gfredlee@aol.com  
web site: <http://www.gfredlee.com>

May 21, 2003

### **Comments on DPR Regulation No. 03-001 Need for Improved Regulations of Pesticides to Protect Groundwater Quality**

Via email: [dpr03001@cdpr.ca.gov](mailto:dpr03001@cdpr.ca.gov)

Mark Pepple, Senior Environmental Research Scientist  
Department of Pesticide Regulation  
Environmental Monitoring Branch

I want to strongly support the Department of Pesticide Regulation's efforts to strengthen groundwater protection associated with pesticide use in California. This is a neglected area that has led over the years to significant pollution of groundwaters in the State by various types of pesticides. The "pesticide management zone" is not a reliable approach for regulating pesticides since it depends on pollution of groundwaters in order to initiate the regulations.

As the individual who initiated and then chaired for several years the ASTM Committee E-35 (pesticide transport/fate/modeling section), I have known since the 1970s that the potential for a pesticide to cause pollution of groundwaters has been largely predictable, based on soil, vadose zone and aquifer characteristics, and pesticide characteristics. In the early 1990s, DPR attempted to develop regulations that would require that an evaluation be made as to whether the use of a pesticide in a certain situation could potentially lead to groundwater pollution. I commented favorably on those regulations. They were not adopted by DPR, for political reasons. This was a serious mistake on the part of the Department, in that another 10 years of groundwater pollution has occurred associated with pesticide use.

Pesticide use should be based on a comprehensive evaluation of the appropriateness of the use in a particular setting, before use occurs. The current approach of regulating pesticides after the groundwater pollution has occurred is irresponsible and strongly contrary to protection of the quality of the groundwater resources of the State. Those who wish to use pesticides should fund DPR sufficiently so that adequate pre-use evaluations can be made.

While the proposed regulations are a significant step in the right direction for controlling pollution of groundwaters associated with pesticide use, they are deficient in that there is no required follow-up monitoring to evaluate the reliability of the predicted transport of pesticides from where application occurs into the vadose zone underlying that area, and into the saturated groundwaters. The field has known since the early 1980s how to monitor the vadose zone as an early-warning system for pollutant transport through the vadose zone to the saturated zone of the

groundwater system. Properly conducted vacuum cup lysimeter monitoring should be practiced in areas where a new pesticide application is occurring. Further, the monitoring of the upper meter of the groundwater table should occur of representative areas where pesticide applications are occurring. If groundwater pollution is found, the pesticide manufacturers and agricultural interests who use the pesticide at a particular location without proper evaluation should be held responsible for having to pay for cleanup of the polluted groundwaters. This is the approach that is used for regulating many other sources of groundwater pollution. Agriculture should be regulated the same way. Adopting this approach will put the use of pesticides on a proper regulatory basis, and thereby significantly enhance protection of one of the most important resources in California – i.e., groundwaters.

Information on my academic background and qualifications to submit these comments is presented on my website, [www.gfredlee.com](http://www.gfredlee.com). Further information on any aspect of these comments is available from me at [gfredlee@aol.com](mailto:gfredlee@aol.com).

G. Fred Lee, PhD, DEE