

G. Fred Lee & Associates

27298 East El Macero Drive
El Macero, CA 95618
530-753-9630 gfredlee@aol.com
www.gfredlee.com

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Mark Pepple, Staff Environmental Scientist Department of
Pesticide Regulation Environmental Monitoring Branch
1001 I Street, P.O. Box 4015
Sacramento, California 958 12-4015

Mark Pepple,

In accord with DPR's request for comments, please find attached Dr. Anne Jones-Lee and my comments on the proposed regulations for improving groundwater quality protection from pollution by pesticides. As indicated, we strongly support the adoption of the proposed regulations. If there are questions on our comments please contact me.

G. Fred Lee, PhD, BCEE

attachment

Comments on California Department of Pesticide Proposed Revisions of Ground Water Pesticide Contamination Prevention Regulations

G. Fred Lee, PhD, PE, BCEE and Anne Jones-Lee PhD

G. Fred Lee & Associates

El Macero, California

gfredlee@aol.com www.gfredlee.com

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The California Department of Pesticide (DPR) has proposed revisions of Ground Water Pesticide Contamination Prevention Regulations to improve the protection of the state's groundwaters from pollution by pesticides. As individuals who have substantial technical expertise in, and great concern for, improving the protection of California's groundwaters, **we strongly support the proposed revisions in the regulations.**

Dr. G. Fred Lee has been active in evaluating the impacts of land-use activities on groundwater quality, and the development of regulations for the protection of groundwaters from pollution by land-use activities, for nearly five decades. A summary of the authors' experience in groundwater protection issues in California is provided in their report and presentation entitled referenced below:

Lee, G. F. and Jones-Lee, A., "Groundwater Quality Protection Issues," Report of G. Fred Lee & Associates, El Macero, CA, February 2007; Presented in part at CA/NV AWWA Fall Conference, Sacramento, CA, October (2007).
<http://www.gfredlee.com/Groundwater/GWProtectionIssues.pdf>

Lee, G. F., and Jones-Lee, A., "Groundwater Quality Protection Issues," Presented in part at CA/NV AWWA Fall Conference, Sacramento, CA, PowerPoint Slides, G. Fred Lee & Associates, El Macero, CA, October (2007).
<http://www.gfredlee.com/Groundwater/GWProtectionIssues-sli.pdf>

That presentation and report focus on key issues and aspects of the continuing problem of groundwater pollution by land-use activities, including the use of pesticides/herbicides for pest and weed control in rural and urban areas.

As discussed in Lee and Jones-Lee's report, the use of pesticide/herbicides has lead, in many areas of California, to significant groundwater pollution that impairs the use of the groundwater for domestic water supply and other purposes. Such pollution, like all groundwater pollution, is in violation of California's Porter-Cologne Water Quality Control Act of 2002. Those regulations explicitly require that groundwaters of the state be protected from pollution/impairment of beneficial uses, and are applicable to all California regulatory agencies responsible for groundwater quality protection. That notwithstanding, as noted in the Lee and Jones-Lee (2007) report cited above, DPR has been aggressively working to protect groundwaters. As documented in the Lee and Jones-Lee (2007) report, the State and Regional Water Quality Control Boards are continuing to permit activities on the land surface, such as waste disposal and agricultural activities, that will clearly lead to groundwater pollution. In contrast, DPR has been

working to develop regulations to enable the Department to evaluate the potential for a new or expanded-use pesticide/herbicide to cause to groundwater pollution.

In the early 2000s DPR proposed regulatory requirements that would enable the Department to evaluate the potential for the use of a pesticide/herbicide to cause or contribute to groundwater pollution, based on the chemical properties of the pesticide/herbicide. Those with expertise in aquatic chemistry and groundwater quality, including the authors, have known for some time that it is possible predict the potential for a chemical with placed on the land surface or near-surface to migrate through the unsaturated aquifer (vadose zone) zone to the groundwater, based on the chemical's chemical characteristics. Some chemicals strongly sorb (attached) to aquifer solids and therefore have limited ability to migrate through the vadose zone to the groundwater table; others do not. In 2003 Lee submitted the following comments in support of DPR's proposed regulations that would enable the Department to screen pesticides/herbicides for their potential to cause groundwater pollution:

Lee, G. F., "Comments on DPR Regulation No. 03-001 - Need for Improved Regulations of Pesticides to Protect Groundwater Quality," Comments Submitted to California Department of Pesticide Regulation by G. Fred Lee & Associates, El Macero, CA, May (2003).

<http://www.gfredlee.com/Groundwater/DPRcomments5-21-03.pdf>

Unfortunately, those regulations were not adopted by DPR because of political pressure by some pesticide/herbicide users. As a result, DPR's regulation of pesticides with respect protection of groundwater quality has been limited to restricting the use of a pesticide only after it has been demonstrated that the pesticide/herbicide has, in fact, polluted groundwaters. Once groundwater has been polluted, it is essentially impossible to recover its use for domestic water supply and other purposes. Further, this approach is not in keeping with the protection of groundwater resources required by Porter-Cologne.

The Lee and Jones-Lee (2007) report referenced above discussed the approach that DPR staff has adopted of developing, as part of pesticide/herbicide registration, information on the potential for the pesticide/herbicide to cause groundwater pollution. While that approach provided some improvement in DPR's ability to regulate pesticides/herbicides that have a significant potential to cause groundwater pollution, it still does not fully protect groundwaters from pollution by registered pesticides/herbicides.

DWR's currently proposed, revised regulatory approach adds certain pesticides/herbicides to DWR's list of chemicals that that have a significant potential to cause groundwater pollution. Those proposed regulations should be supported as part of improving the protection of groundwater quality from pesticides/herbicides used in California. Further DPR should continue to work toward achieving the ability to regulate the use of all pesticides/herbicides to prevent groundwater pollution.

Additional information on the qualifications of these commenter's to support the DPR's regulations designed to improve groundwater quality protection is provided on their website, www.gfredlee.com.