



June 7, 2019

TO: Interested Parties

SUBJECT: COMMENTS ON THE DRAFT RISK MANAGEMENT DIRECTIVE FOR CHLORPYRIFOS AND RESPONSES

Under Food and Agricultural Code section 14023(e) the Director of the Department of Pesticide Regulation (DPR) “shall determine, in consultation with the Office of Environmental Health Hazard Assessment (OEHHA), the State Air Resources Board (ARB), and the air pollution control or air quality management districts in the affected counties, the need for and appropriate degree of control measures for each pesticide listed as a toxic air contaminate pursuant to subdivision (d). Any person may submit written information for consideration by the director in making determinations on control measures. The director’s written determination and any formal written comments made by the consulting agencies shall be made available to the public.” Pursuant to a Memorandum of Understanding, DPR also consulted with the California Department of Food and Agriculture (CDFA) on the proposed risk management directive (RMD). The following is a summary of comments from these agencies and DPR’s responses.

Office of Environmental Health Hazard Assessment (April 8, 2019)

OEHHA agrees with the critical endpoint and the point of departure in the risk characterization document (RCD), and supports DPR’s use of the reference dose of 0.0001 mg/kg-day for aggregate exposure and the reference air concentration of 4.05 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) for acute 1-hour inhalation. OEHHA concurs with DPR’s determination that additional control measures are necessary and DPR’s direction to staff to begin preparing to cancel the registration of chlorpyrifos to meet the requirements under the toxic air contaminant (TAC) program and protect public health.

DPR Response:

DPR appreciates OEHHA’s comment and agreement on the reference dose and reference air concentration. DPR also appreciates OEHHA’s concurrence that additional control measures are necessary to achieve the selected levels and that cancellation is appropriate due to the fact that there is not any feasible mitigation available to protect public health.

California Air Resources Board (April 5, 2019)

ARB supports the proposed decision by DPR to cancel the registration of chlorpyrifos.

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DPR Response:

DPR appreciates California ARB's review of the proposed Risk Management Decision and support of the proposal to cancel registrations of chlorpyrifos.

California Air Pollution Control Officers Association (CAPCOA) (May 17, 2019, on behalf of local air pollution control districts)

CAPCOA supports DPR's recommendation to no longer register chlorpyrifos in California.

DPR Response:

DPR appreciates the local air pollution control districts review of the proposed Risk Management Decision and support of the proposal to cancel registrations of chlorpyrifos.

CDFA comments (April 9, 2019)

DPR General Response to CDFA comments:

CDFA's comments generally do not pertain to whether the regulatory target concentration and dose selected in the proposed RMD are appropriate and necessary to protect human health. Rather, CDFA's comments discuss the potential impacts of the proposed cancellation on California agriculture and the benefits of using chlorpyrifos. After finalizing the RMD, DPR must consult with CDFA on the development of a control measure for chlorpyrifos. At that time, DPR will provide CDFA with the opportunity to supplement these comments should CDFA wish to provide further consultation on the proposed cancellation. DPR's response to CDFA's comments are below:

Comment 1:

Chlorpyrifos is a widely used insecticide in California on several major crops. Beginning in 2015 DPR issued recommended permit conditions to County Agricultural Commissioners that increasingly limited use of chlorpyrifos in California. The latest interim recommended permit conditions limit applications to critical uses where few or no alternatives were available and to preserve use in case of emergencies and unanticipated pest outbreaks. County Agricultural Commissioner offices verify that use of chlorpyrifos has and will continue to decline.

DPR Response:

DPR generally agrees with CDFA's summary of current chlorpyrifos use. DPR acknowledges that the interim permit conditions it recommended county agricultural commissioners implement prohibited or otherwise limited certain kinds of applications (aerial and airblast), instituted buffer zones of up to a quarter mile, limited applications to 40 acres or less, and restricted use to certain crops without acceptable pesticide alternatives. However, while these measures offer human health protection, they do not reduce exposure to chlorpyrifos to below the regulatory target concentration or dose proposed in the RMD.

Comment 2:

CDFA has not completed its economic analysis, expected July 2019, but it is likely that cancellation of chlorpyrifos in California will substantially increase pest management costs in several major crops, including alfalfa, almond, citrus, cotton, grape, and walnut. The particular alternatives to chlorpyrifos depend on specific crop and pest combinations, but in many cases existing alternatives are considerably more expensive, require multiple applications to achieve similar efficacy, are more disruptive to biological controls, have limited use due to resistance issues or export restrictions, or are under regulatory scrutiny for a variety of reasons.

DPR Response:

DPR acknowledges the challenges facing California growers for certain pest-crop combinations and looks forward to reviewing CDFA's economic analysis when it is completed. Innovative work over the last several decades has resulted in additional tools for managing pests that have historically been controlled by chlorpyrifos; however, additional development is still needed. According to the University of California Cooperative Extension, alternatives to chlorpyrifos exist for all pest-crop combinations except the following combinations:

- 1) Applications to alfalfa for a) Weevils b) Blue alfalfa aphid c) Cowpea aphid*
- 2) Applications to almonds for a) Leafhopper b) Stink bugs*
- 3) Applications to asparagus for a) Garden symphylans b) Asparagus aphid*
- 4) Applications to citrus for ants*
- 5) Applications to cole leafy vegetables, radish, rutabaga, or turnip for root maggots*
- 6) Applications to cotton for a) Cotton aphid b) Sweetpotato whitefly*
- 7) Applications to garlic for root maggots*
- 8) Applications to grapes for a) Ants b) Vine mealy bugs*
- 9) Applications to onions for root maggots*
- 10) Applications to peppermint for a) Garden symphylans b) Mint root borer*
- 11) Applications to walnuts for borers*

DPR is looking forward to collaborating with CDFA to develop innovative solutions to these pest-crop combinations. The Governor's May Revision budget proposal included \$5.7 million in funding to develop a cross-sector working group and to fund research to identify and develop safer, more practical and sustainable alternatives to chlorpyrifos, including the use of biological controls and other integrated pest management practices. In combination, the proposed working group and funding for alternatives will aid in the development of short- and long-term solutions to support growers in the transition away from chlorpyrifos.

Comment 3:

California agriculture is struggling with many different pressures, most recently suffering from the impacts of lost trade and increased tariffs caused by U.S. trade policy. Other pressures

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include increased expenses, decreasing crop prices and greater fallowing of land due to decreased water reliability.

DPR's Response:

DPR acknowledges the variety of pressures facing California agriculture and looks forward to reviewing CDFA's economic analysis when it is completed and collaborating with CDFA on the proposed working group and funding opportunities for alternatives.

Comment 4:

The phasing out of chlorpyrifos in Hawaii and proposed federal and state legislation to ban chlorpyrifos use are examples of a troubling trend that eliminates science and methodology from the complex pesticide regulatory process.

DPR's Response:

DPR is conducting its regular, science-based TAC process, which is outlined in Food and Agricultural Code sections 14021-14026. DPR finalized the 2018 Risk Characterization Document (2018 RCD) for chlorpyrifos in July 2018 after review by the Office of Environmental Health Hazard Assessment (OEHHA) and the Scientific Review Panel (SRP) and listed chlorpyrifos as a TAC. (Cal. Code Regs., tit. 3, § 6860, effective April 1, 2019.) Once chlorpyrifos was listed as a TAC, DPR was required to determine, "in consultation with [OEHHA], the California Air Resources Board, and local air pollution control districts or air management districts in affected counties, the need for and appropriate degree of control measures..." (Food & Agr. Code, § 14023(e).) As outlined in the RMD, DPR determined that a regulatory target concentration of 4.05 micrograms of chlorpyrifos per cubic meter of air ($\mu\text{g}/\text{m}^3$) and a regulatory target dose of 0.0001 milligrams of chlorpyrifos per kilogram body weight per day ($\text{mg}/\text{kg}/\text{day}$), are appropriate to protect public health and that additional control measures are necessary. Pursuant to the TAC process, DPR will next "develop control measures to reduce emissions sufficiently so that the source will not expose the public to the levels of exposure that may cause or contribute to significant adverse health effects." (Food & Agr. Code, § 14024(a).)

Comment 5:

Any proposal to mitigate the loss of chlorpyrifos must be meaningful. The establishment of a task force to recommend actions for transition should incorporate recommendations from previous exercises to evaluate California pest management and supporting the agricultural sector with best available IPM practices, technical assistance and demonstration projects. CDFA recommends a thorough evaluation with specific recommendations for investments in technical assistance offered through existing programs, as well as investigating new research programs modeled after successful University of California (UC) programs.

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DPR's Response:

DPR agrees with CDFR's comments related to the cross-sector working group and looks forward to collaborating with CDFR and the working group, as reflected in the Governor's May Revision budget proposal.

Sincerely,

Original signed by

Val Dolcini
Acting Director
916-445-4000

cc: Dr. Karen Morrison, DPR Assistant Director
Mr. Jesse Cuevas, DPR Assistant Director
Mr. Randy Segawa, DPR Special Advisor