EWG Comments to California Department of Pesticide Regulation on the 2023 Draft Air Monitoring Network Report

The Environmental Working Group, or EWG, a nonprofit research and policy organization with an office in Sacramento, CA and headquarters in Washington, D.C. respectfully submits these comments to the California Department of Pesticide Regulation.

The impact to Californian's health from pesticide exposure is an area where EWG has for decades researched and advocated for changes to reduce harm. The health harm due to pesticide exposure from nearby farm fields remains a public health and environmental justice issue that requires action. EWG's recent peer-reviewed publication, which evaluated Ventura county's pesticide use found greater pesticide application near communities with higher percentages of the population that identify as Latino, Black and Asian American[1]. Last month EWG collaborated with Californians for Pesticide Reform, UC Irvine's Center for Land, Environment, and Natural Resources, and Golden Gate University in a publication documenting the environmental racism of California pesticide application[2].

The Air Monitoring Network provides essential data and information necessary to protect public health from the potential toxic effects of pesticide exposure, yet the results analysis and communication have not been completed in the public interest.

EWG urges DPR to present the data within the air monitoring report in a more meaningful and scientifically appropriate manner. The current form of data analyses and presentation does not meet scientific standards, and as such the results were inaccurately characterized in a DPR press release. The incorrect statements in DPR's press release led to numerous news outlets incorrectly reporting the findings.

Additionally, EWG recommends that it is in the public interest for DPR to reevaluate its pesticide screening levels to incorporate more recent toxicological data and evaluations from other organizations or agencies.

We suggest several more specific comments to DPR below.

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[1] Temkin AM, Uche UI, Evans S, Anderson KM, Perrone-Gray S, Campbell C, Naidenko OV. Racial and social disparities in Ventura County, California related to agricultural pesticide applications and toxicity. *Sci Total Environ*. 2022 Dec 20;853:158399. doi: 10.1016/j.scitotenv.2022.158399. Epub 2022 Sep 3. PMID: 36063919.

[2] Macey G, Farrell C, Anderson K, Garcia A, Martinez Y, Sellen J, Temkin A, Weller, M. (2024). Pesticide Use and Civil Rights in Central California: Slow Violence and the State. *Environment: Science and Policy for Sustainable Developmen*t, 66(6), 6–24. https://doi.org/10.1080/00139157.2024.2394005

Restructure the "Pesticide Detections" section to better report the data

Based on the pesticide air monitoring data, the number of air samples that detected pesticides was nearly 80 percent, yet that finding is on the third page of the results section, while it should be reported in the first paragraph. As currently written, the first paragraph of the "Pesticide Detections" section should be removed or put into an appendix. Describing the detection frequencies based on the total analyses (n= 8,085), when the denominator should be the number of weekly samples that were analyzed for any pesticide (n=207), is incorrect and can lead to a misinterpretation of the number of air samples that contained pesticides. As such, we recommend presenting table 4, which accurately calculates the sample detection frequency, first within the report and beginning this section with description of those results. We then recommend discussing the pesticides that were detected as is currently done in the report, as well as keeping what is currently Table 2. Table 3 should be deleted, or put into an appendix, as again, using the denominator as total number of analyses is not appropriate.

Also, the detection frequency results should also be contextualized based on temporal use of pesticides. For example, during the spraying season for a given pesticide, the detection frequencies may be 100 percent, but since there may be several months when a pesticide is not used, this would shift the overall detection frequency.

Improvements to comparing air concentrations to health-based screening levels

EWG recognizes that there are no existing standards or legal limits for pesticides in air in California, or nationwide, and applauds DPR for deriving health-based screening levels for the pesticides tested. However, consistent rereview of these screening levels, especially when regulatory changes occur or new data emerges, would greatly improve their utility. For example, the Office of Environmental Health Hazard assessment recently calculated a cancer based no significant risk level for 1,3-D that is more health protective than the current value used by DPR[3]. At the bare minimum, an additional comparison for 1,3-D with the OEHHA value should be included in the report. Another example is DCPA, for which the EPA recently reduced the reference dose by a factor of ten based on new evidence that lower doses of DCPA, when exposed during pregnancy, reduced fetal thyroid hormone levels[4]. Although DCPA was not detected at quantifiable levels, a reevaluation of the screening level is warranted, and serves as an example for when and how other screening levels should be reevaluated.

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[3] California Environmental Protection Agency Office of Environmental Health Hazard Assessment. Safe Drinking Water and Toxic Enforcement Act of 1986 Proposition 65 Notice of Proposed Rulemaking Title 27, California Code of Regulations Amendment to Section 25705 Specific Regulatory Levels Posing No Significant Risk: 1,3-dichloropropene (oral and inhalation exposures). October 29, 2021. Available at: https://oehha.ca.gov/media/downloads/crnr/13dnsrlnprm102221.pdf

[4] US EPA Office of Chemical Safety and Pollution Prevention. DCPA: Occupational and Residential Exposure Assessment for Registration Review of DCPA. May 18, 2023.

Specific consideration for the susceptibility of children to the harmful effects of pesticides should be included in the derivation of screening levels and calculations of cancer risk, especially since the air monitoring stations are present at schools and the locations for the sites were partially determined based on the population of children within the communities. Additionally, a cumulative cancer risk approach should be utilized as is done with toxic air contaminants, and EWG recommends utilizing a cancer risk threshold of 1×10^{6}, not $1 \text{ X } 10^{5}$. Other chemicals, including captan and malathion, should also be added to the cancer risk estimates as they are listed on California's Proposition 65 list.

Additional methodological considerations

While we understand the current approach to random sampling one day per week, this may result in sampling bias that misses concerning pesticide exposures. Additionally, it may be possible for growers to know when sampling is planned to occur, and therefore change application protocols. We believe a more effective approach may be to time sampling based on when known pesticide applications are to occur, to ensure that actual real-world exposure scenarios are accurately captured. Samples should be collected daily on days of and directly following nearby pesticide application.

We appreciate the opportunity to comment.

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