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To: Director Julie Henderson
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Via email: dpr23003@cdpr.ca.gov

Re: Request for public comment on DPR's notice to amend sections 6000, 6424, 6428, 6432, and 6434 of Title 3, California Code of Regulations (3 CCR) regarding Statewide Notification of Agricultural Use of Restricted Materials

Dear Director Henderson,

It was a pleasure to connect with you and several of your staff this past March at the Environmental Health and Justice tour in Cantua Creek and Lanare that the Center I direct (formerly the University of California Davis Environmental Health Sciences Center; now renamed), UC Davis Center *THREE*: ***T**owards **H**ealth, **R**esilience and **E**nvironmental **E**quity*, organized with several of our community collaborators. We greatly appreciated your attendance and leadership in engaging with the community representatives who spoke about their wide range of concerns, including pesticide exposures.

Today, I am writing as the Center *THREE* Director in response to the request for public comments related to the Statewide Notification of Agricultural Use of Restricted Materials. Our Center's mission is to advance the science on environmental contributions to health and disease and to translate the research into interventions and actions that reduce human exposures and/or their health impacts. Center *THREE* has a strategic focus on Community-Engaged Research and environmental justice, in which we collaborate with community-based organizations and public agencies to develop research that is responsive to community needs and is also policy-relevant. The health effects of pesticide exposure are a high priority area of research for both our community partners in California's Central Valley and to our academic members.

Several of our Center *THREE* members have conducted extensive research on pesticides, and some of our publications include studies of: prenatal pesticide exposures in California and birth defects (Bell et al 2001a, 2001b); autism spectrum disorder (Shelton et al 2014, Philippat et al 2018, Barkoski et al 2021, Bennett et al 2022); autism-related traits (Joyce et al 2022); folic acid intake as a buffer against pesticide neurodevelopmental toxicity (Schmidt et al 2017); neurodevelopmental effects from prenatal organophosphate pesticide exposures and

recommendations to reduce human exposures (Hertz-Picciotto et al 2018); organophosphate pesticides and ADHD (Oh et al 2023); interactions of organophosphate metabolite diethyl phosphate with two other chemicals (Midya et al 2023); neuroprotection by diazepam from organophosphate-induced seizures (Hobson et al 2024); mouse model of status epilepticus and acute diisopropylfluorophosphate intoxication (Calsbeek et al 2021); altered innervation of brown adipose in adult female mice exposed to DDT/DDE (vonderEmbse et al 2021); low doses of chlorpyrifos(no inhibition of AChE activity) and altered ultrasonic communication in mice (Berg et al 2020), pesticide policy and environmental justice (London, Sze, Liévanos 2008)….and many more.

Additionally, several of our members (Dr. Pamela Lein, Dr. Isaac Pessah and myself, Dr. Irva Hertz-Picciotto) have provided expert testimony to State legislative hearings, gubernatorial briefings and/or Proposition 65 discussions on health impacts from drift of agricultural pesticides.

Today we are writing to you in response to DPR's request to comment on the notice to amend sections 6000, 6424, 6428, 6432, and 6434 of Title 3, California Code of Regulations (3 CCR) regarding Statewide Notification of Agricultural Use of Restricted Materials

As you know, we share your commitment to providing agricultural communities with timely, effective communication about pesticide applications, and have appreciated the opportunity to participate in the development of such a system at the statewide level:

In 2021, we funded a research project in Shafter, where a pesticide notification system had been included in the community's AB 617 Community Emissions Reduction Program (CERP), and NOIs were anticipated to be made publicly available shortly. This project represented a collaboration between a sociologist, a computer scientist, and a statewide community-based organization to develop and pilot an app-based notification system grounded in both innovations in computer science and a sociological study of how participants living in agricultural regions responded to notifications through health-protective behavior changes.

When the Kern County Agricultural Commissioner declined to publicly release advance NOIs, our research team pivoted to developing the app using historical NOIs, and to advising DPR on the development and assessment of state-funded pilots in other counties, with one member of the original Shafter research team and one additional Center *THREE* member able to participate.

Having been engaged in this issue for many years, we are exceptionally pleased to see the inclusion of many of the features requested by communities and supported by the findings of both our original pilot and the subsequent independent assessment of the state-funded pilots. Excellent strides forward include the public availability of statewide data, and now, the ability to receive advance alerts and to also have this be without identity-based registration, as well as information provided in both English and Spanish. It is truly exciting to see California preparing to implement an advance notification system for statewide pesticide applications that addresses key issues related to equity and inclusiveness and demonstrates a strong commitment to promoting public health.

We also commend the inclusion of notifications up to 1 mile away, as this buffer is supported for many diverse potential or established adverse health impacts identified through research on residential exposures to agricultural pesticide applications (Shelton et al. 2014, Calderon et al. 2024, Swartz et al. 2022, Costello et al. 2009, Paul et al. 2024).

Nonetheless, we do have concerns about the lack of information on the precise location of planned pesticide applications. Our concerns fall into several categories, detailed below:

Lack of precise location limits public health utilization by providing inadequate data to support health-protective behavior change.

The purpose of this system, as we understand it, is to allow residents to engage in health-protective behaviors in response to the information provided. Research shows that closer proximity will on average lead to higher exposures and hence greater health risks. (Madrigal et al. 2023, *Figure 4*; Bell et al. 2001, *Compare Tables 5 and 6*; Bell et al. 2001, correction).

Knowing the precise location of a planned application is of utmost importance in allowing residents to make informed decisions to protect their health. This is especially critical for protecting those most vulnerable, including children and those with prior health conditions.

In addition, based on our own experience collaborating with community-based organizations in the region and on relevant social science research, the argument that a precise location would lead to trespassing or direct action to prevent pesticide applications is not supported by evidence. To the contrary, studies have shown farmworkers and rural residents proactively seek to avoid pesticide exposure (Harrison 2011).

Therefore we support notification within 1 mile AND also urge DPR to also include the precise location of the intended application.

Lack of precise location limits the functionality and accuracy of notifications.

The system as designed relies on the use of fixed squares as a unit of notification, rather than a radius from the actual application. As such, applications could foreseeably take place very close to the boundary of a square. In such a scenario, it is unclear whether someone who requested notifications based on an address in close proximity to the application, but in a different square, would be notified. To ensure all relevant parties receive notifications, we recommend extending notifications to appropriate addresses within all squares that are at least partially within a one mile radius of the application, as well as including the precise location of the application. See Figure below.

The Black Dot in the center of the circle represents a pesticide application.

The squares (outlined by yellow lines) are the units proposed for notifications.

Recommendation:
Notifications should reach all residences within the circle that has a radius of 1 mile. However, since applications are often much larger than the black dot, the 1 mile should be drawn outward from every point on the perimeter of the application.

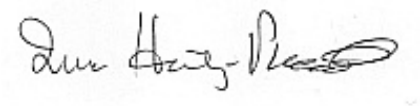
Precise location information, in this scenario, would also help to alleviate excess or unnecessary stress or anxiety when an application is within the square mile of the residence but potentially more than a mile away, or else simply downwind of the residence.

Precise location would allow more robust research utilization. More precise locational data would open up new avenues for environmental health research, as pesticide use data has previously only been reported at the 1 square mile scale. Our funder, the National Institute of Environmental Health Sciences, is actively promoting innovative data science methodologies, including exposomics and precision environmental health, which could potentially utilize more precise locational data to create new insights that could lead to more accurate, evidence-based, health-protective regulatory policy.

In summary, timely, accurate, publicly accessible data on pesticide applications will both: allow communities to proactively reduce or mitigate their exposure and advance scientific knowledge on the health impacts of pesticide use.

Therefore, we strongly support the activities to date towards a comprehensive Statewide Notification System of Agricultural Use of Restricted Materials that aims to reach populations most exposed to pesticides. This program can be a major step towards achieving environmental justice and health for all by prioritizing public health and ***we therefore urge that the accuracy and actionability of notifications be maximized by including the precise location of pesticide applications as part of any comprehensive public notification system.***

Sincerely,



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