



**PESTICIDE REGISTRATION
AND EVALUATION COMMITTEE (PREC)
Meeting Minutes – December 11, 2020**

Committee Members/Alternates in Attendance:

Amalia Neidhardt – Department of Industrial Relations (DIR)
David Ting – Office of Environmental Health Hazard Assessment (OEHHA)
Heather Williams – Department of Resources Recycling and Recovery (CalRecycle)
Jaime Rudd – Department of Fish and Wildlife (DFW)
James Seiber – University of California (UC), Davis, Department of Environmental Toxicology
Jeff Fowles – Department of Public Health (DPH)
Kevi Mace – California Department of Food and Agriculture (CDFA)
Lynn Baker – Air Resources Board (ARB)
Matt Hengel – University of California, IR-4 Program
Patti TenBrook – U.S. Environmental Protection Agency (EPA), Region 9
Tulio Macedo – Department of Pesticide Regulation (DPR)
Valerie Hanley – Department of Toxic Substances Control (DTSC)

Visitors in Attendance:

Note: Only attendees who identified themselves using their full name are listed below

Anne Katten – California Rural Legal Assistance Foundation
James Nakashima – Office of Environmental Health Hazard Assessment (OEHHA)
Justine Lew Weinberg
Katherine Sutherland-Ashley – Office of Environmental Health Hazard Assessment (OEHHA)
Laura Rosenberger Haider
Ouahiba Laribi – Office of Environmental Health Hazard Assessment (OEHHA)
Suzanne Hume
Taylor Roschen - California Farm Bureau Federation
Thomas Ineichen

DPR Staff in Attendance:

Brenna McNabb – Pesticide Registration Branch
Brittanie Clendenin – Pesticide Registration Branch
Denise Alder – Pesticide Registration Branch
Edgar Vidrio – Environmental Monitoring Branch
Emma Colson – Worker Health & Safety Branch
Jazmin Gonzalez – Environmental Monitoring Branch
Kara James – Pesticide Registration Branch
Laura Benn – Pesticide Registration Branch
Susan McCarthy – Worker Health & Safety Branch
Val Dolcini – Director’s Office

1. Introductions and Committee Business – Tulio Macedo, Acting Chair, DPR

- a. Approximately thirty (30) people attended the meeting.

2. 1,3-D Pilot Projects – Edgar Vidrio, DPR

1,3-Dichloropropene (1,3-D) is a pre-plant soil fumigant used to control nematodes, insects, and disease organisms. It is widely used in California, especially on crops such as fruit and nut trees, strawberries, grapes, and carrots. 1,3-D is classified as both a toxic air contaminant (TAC) and a restricted material, requiring a permit from the local county agricultural commissioner prior to application. Various mitigation measures to control exposure to 1,3-D have been in place since 1995. Most of these mitigation measures are related to long-term or chronic exposures, though DPR is currently looking at measures to mitigate acute and sub-chronic exposures as well.

DPR's 1,3-D Pilot Program is proposed to assess the feasibility and effectiveness of alternative application methods at reducing 1,3-D emissions by at least 60% as compared to untarped applications. The study will consider the fact that 1,3-D is extensively used and there is no commercial-scale alternative currently available. Proposed mitigation measures could be costly and not all proposed measures may be feasible or achieve the desired emission reductions. The program will run from October 2020 to October 2021. Although locations have not yet been set, DPR is interested in conducting the study in regions with traditionally high 1,3-D use rates, such as Merced, Fresno, and Kern Counties, though other communities may be involved, depending on collaboration opportunities.

The pilot program will study various application methods, including fumigant injection at deeper soil depths, increasing soil moisture, complete and partial totally impermeable film (TIF) tarping, application rate reductions, acreage limits, and setbacks from occupied sensitive sites, or a combination thereof. To ensure the program produces high quality data, fields need to meet certain selection criteria, such as size, clearance, and nearby applications. The program will also need to account for COVID-19 restrictions, reduced state budgets, and other related limitations. Weekly ambient 1,3-D air sample collection will continue at the current sampling sites of Shafter, Parlier, and Delhi as part of the Air Monitoring Network.

The first application-site study was completed in Kern County, near the city of Shafter, in collaboration with the applicator TriCal Inc. and the UC Extension. This study focused on assessing the effect of higher soil moisture on 1,3-D emissions. DPR collected soil samples before application and placed twelve air samplers around the field. Air concentrations were sampled at the time of application, as well as in six-hour intervals thereafter for up to seven days. The study report is expected to be completed in the second quarter of 2021.

Although not necessarily part of the pilot program, DPR conducted soil sampling in a study sponsored by DOW, in collaboration with Ajwa Analytical Lab, TriCal Inc., Sullivan Environmental Consulting, and UC Extension. This study assessed the effects of higher soil moisture, deeper injection, and the use of a heavy flat roller on 1,3-D emissions. Air samples

were collected from outside the field, as well as at varying heights within the field, both during and after application. The data from this study may be used to supplement the data gathered as part of the DPR pilot program. The study report is also expected to be completed in the second quarter of 2021.

Next steps for the pilot will be to analyze and evaluate the results from the first two application studies. DPR will use this data to compare with model data and prepare study reports. DPR will continue to work with collaborators to seek fields and applications for additional site studies. The Shafter area will continue to be prioritized for upcoming monitoring studies. Stakeholders will be kept up-to-date on the pilot program status through AB617 partners (including the Shafter Community Steering Committee), the Pesticide Registration and Evaluation Committee, California Air Resources Board's Scientific Review Panel, and other partnerships that may arise.

Committee Comment

Lynn Baker asked how many additional site studies DPR will conduct, and whether the air sampling uses canisters or charcoal tubes. Edgar Vidrio replied that they are aiming for five or six additional studies, however the previously mentioned considerations of COVID-19 and limited funding, as well as the restriction against application of 1,3-D in December, may impact the number of sites and applications that meet the required program specifications. Edgar added that samples are collected with charcoal tubes due to limited access to regulators and electricity in the field. Lynn added that the canister collection method has been found to be superior, especially at high concentration levels.

Patti TenBrook asked why the goal is a 60% reduction in emissions and whether it is intended to reduce emissions, exposures, or both. Edgar Vidrio replied that the 60% reduction goal was determined based on an established threshold used by DPR and EPA to provide buffer-zone credit to applications that use emission-reducing technology for other fumigants, such as chloropicrin. The goal is to reduce emissions to a level that is proportional to the use of TIF tarps

Public Comment

Justine Lew Weinberg asked what data will be compared to the Kern and Stanislaus studies. Justine also asked if DPR conducted air monitoring in these locations during a typical application. Edgar replied that the data will not be compared to other applications, because concentrations can be affected by many factors, including soil composition, weather patterns, application methodology, and monitoring distances. Edgar clarified that the data collected through the studies will be used to further validate the computer air modeling results, and any comparison would be between the expected emissions of the computer model and the actual real-world measurements.

James Nakashima commented that some applications use TIF and other measures to reduce emissions and that DPR's stated reduction target is 60%. James then asked how much reduction occurs under current measures. Edgar Vidrio replied that different measures produce different

reductions in emissions. Edgar clarified that the 60% reduction is in comparison to the standard, predominant application method (18” deep injection, untarped, etc). Lynn Baker added that the amount of 1,3-D emitted from an application can vary based on soil type and moisture, but the general range would be the baseline for the 60% reduction. Lynn then suggested providing a range of typical emissions from a sandy soil to a heavy clay soil where the emissions would be less. Edgar replied that he did not have exact numbers on hand, but the information could be found on the [active ingredient page for 1,3-D](https://cdpr.ca.gov/docs/whs/active_ingredient/1_3-d.htm) on the DPR website.
<cdpr.ca.gov/docs/whs/active_ingredient/1_3-d.htm>.

3. Pesticide Decontamination Site Regulations – Emma Colson, DPR

Section 6734 of Title 3 of the California Code of Regulations (3 CCR) specifies decontamination requirements for employers to provide to employees who handle pesticides. There are slightly different requirements based on the pesticide use situation, including agricultural use (ie. production of agricultural commodities), non-agricultural use, and general requirements that apply to all uses. Section 6771 outlines what employers need to provide to employees who enter treated fields under restricted entry, including decontamination requirements. Decontamination is defined as “...the removal of hazardous substances from employees and their equipment to the extent necessary to preclude the occurrence of foreseeable adverse health effects,” according to the Occupational Safety and Health Administration ([OSHA standard 1910.120\(a\)\(3\)](https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.120))
<osha.gov/laws-regs/regulations/standardnumber/1910/1910.120>

Current regulations do not require eyewash stations to be American National Standards Institute (ANSI) Z358.1 compliant. This standard is seen in other regulations, such as the Division of Occupational Safety and Health (Cal/OSHA), where there is a potential for exposure to the eyes from a substance that could cause corrosion or other adverse health effects. Systems that do not meet this standard may not adequately flush the eye and face area, resulting in the potential for additional injury. Currently, eyewash stations are only required for employees handling pesticides in agricultural use settings. They are not required for non-agricultural use settings under 3 CCR.

Non-agricultural decontamination sites are only required when using products with the signal words DANGER or WARNING. Pesticide signal words indicate the toxicity category of a pesticide product. Category I denotes the highest level of toxicity, with the signal word DANGER or DANGER-POISON. At this level, products may cause corrosion, which can cause irreversible damage to the tissue or other substance that it contacts. Category II products carry the signal word WARNING and present moderate toxicity, which results in severe irritation to the eyes and skin. Category III products carry the signal word CAUTION and can result in irritation of the eyes and skin. Agricultural use settings are required to have decontamination areas at the mixing and loading site when using any pesticide, regardless of the signal word. This constitutes an inconsistency in the regulation between the two use groups.

The American National Standard for Emergency Eyewash and Shower Equipment was developed by the International Safety Equipment Association (ISEA) and subsequently approved

by ANSI. This standard sets uniform minimum performance and use requirements and is used by manufacturers to develop eyewash stations and emergency showers. Some of the requirements set by the standard include installation guidelines, test procedures, maintenance schedules, and employee training.

Current regulations are similar to the ANSI standard in requiring an eyewash flow rate of 0.4 gallons per minute for 15 minutes. However, the regulations do not require the system to function without the use of the operator's hands. This is an important distinction, as the operator should be using their hands to hold their eyes open while using the eyewash station. Additionally, current regulations do not define the type of fluid that will be delivered to the eyes, whereas equipment that meets the ANSI standard will specify what the fluid should be. By updating current regulations to require these facilities to meet ANSI standards, DPR expects elevated efficacy for the health and safety of employees who handle pesticides.

DPR is proposing several changes to the current eyewash regulations. These changes would require an ANSI-certified eyewash station when certain criteria are met. The proposed changes would also expand the eyewash station requirements to all employees who handle the mixing and loading of pesticides, including in non-agricultural settings. Employees responsible for mixing and loading pesticides interact directly with more concentrated levels of pesticide products, and are therefore at greater risk of exposure or injury. The current regulations require immediate access to an eyewash station when mixing and loading pesticides using a closed system or when product labeling requires protective eyewear. DPR is proposing the additional requirement of access to an eyewash station when the product labeling bears the term "corrosive".

Although current regulations require pesticide decontamination sites at the mixing/loading site for agricultural use settings, in non-agricultural use settings the decontamination site can be located anywhere up to 100 feet of the mixing/loading site. DPR is proposing to amend the regulations so that the non-agricultural requirements are consistent with the agricultural requirements. In addition to requiring the decontamination site to be located at the mixing/loading site, DPR is proposing to expand this requirement to include products with the signal word CAUTION, as well as those without a signal word, in non-agricultural settings.

With these proposed changes, DPR intends to more consistently protect worker health, bring the California requirements in line with the more protective standards of the ANSI eyewash stations, and better align the agricultural and non-agricultural use setting requirements.

Committee Comment

Jim Seiber asked for information about which direction pesticide-related injuries are trending statewide over the past several years. Emma Colson replied that this regulation focused mainly on the overall numbers that were affected since the Worker Protection Standard took effect in 2017. Emma added that there were roughly 50 cases of illness or injury related to pesticides that fell outside the signal word restrictions.

Amalia Neidhardt asked if DPR will be holding an advisory meeting to invite employee and worker input. Emma Colson replied that the suggestion will be forwarded to the work group and supervisors.

Public Comment

Laura Haider asked how to find out which pesticides were used this year on a farm across the street from her home. Laura added that she has observed thick sticky dust on the trailer windshield and solar panels, and has developed rashes on her legs. Laura further added that she could use a copy of the health risks to workers. Emma Colson replied that although Laura's concerns fall outside the scope of the presentation, Emma would advise Laura to contact her local county agricultural commissioner to further discuss the situation.

An anonymous attendee asked if there are any drafted regulations, and if so, when DPR expects the new regulations to go into effect. Emma Colson replied that the regulations are still in the development phase, and that they are currently working on the economic analysis section of the regulation packet. Emma added that the goal is to have the regulations sent out for notice within the first quarter of 2021.

4. AMN Community Selection Process for 2021 – Jazmin Gonzalez and Edgar Vidrio, DPR

DPR created the Air Monitoring Network (AMN) in 2011 to monitor 32 pesticides and four break-down products in the communities of Ripon, Shafter, and Salinas. In 2017, the program was granted a Budget Change Proposal to expand to cover eight monitoring sites: Shafter, Watsonville, Santa Maria, Cuyama, San Joaquin, Lindsay, Oxnard, and Chualar. Additional funding for the program ended in 2020, prompting the department to evaluate where to place the four monitoring sites for the upcoming iteration of the program. As in previous years, California communities were ranked based on pesticide use and other factors to prioritize monitoring locations.

Although the selected sites will be monitored for 32 pesticides and four breakdown products, community selection is primarily focused on pesticide use reporting from specific fumigants and organophosphates (OPs). DPR staff analyzed the 2014-2018 average use of four fumigants and eleven OPs. The four fumigants included in this analysis are 1,3-dichloropropene (1,3-D), chloropicrin, methyl bromide, and methyl isothiocyanate (MITC) generators. MITC is a byproduct of pesticides such as metam-sodium, metam potassium, and dazomet. The eleven OPs included in this analysis are acephate, bensulide, dichlorvos (DDVP), diazinon, dimethoate, malathion, methidathion, naled, oxydemeton-methyl, phosmet, and S,S,S-tributyl phosphorotrithioate.

Staff then tabulated this data across three zones for each community throughout the state. The first zone consists of the area inside the community boundary, the second zone is defined by a one mile radius from the community boundary (local zone), and the third is a five mile radius

from the community boundary (regional zone). Out of the 1,228 California communities analyzed, 748 had reported OP use and 499 had reported fumigant use within five miles of the community. Staff then calculated the use density (lbs/sq mi) for fumigants and OPs for each zone of each community, adjusting this data to factor in average wind speed.

Based on the average of the three zones, DPR staff ranked the communities from highest to lowest for both fumigants and OPs. The top 30 communities from each list were then further adjusted to account for environmental justice factors using CalEnviroScreen 3.0, a tool developed by OEHHA. One of the weighting factors from this tool is the Population Characteristics Percentile, providing a socio-economic and sensitive population score based on asthma rates, percent of low birth-weight births, cardiovascular disease, educational attainment, linguistic isolation, poverty, unemployment, and housing burden reported by census tract. Using GIS, census tracts were cross-referenced with the community boundaries layer, to create an average population characteristic (Avg PC) for the top 30 communities. These communities were then re-ranked based on Avg PC scores and then grouped by county.

In the final community ranking results, the top 30 communities for fumigant use were spread across 12 counties. Santa Cruz and Kern Counties were each represented by five communities, while Fresno and Monterey counties each had four communities on the list. The communities on the OP list were spread across 13 counties. For these pesticides, Monterey County was represented by ten communities, while Imperial and Santa Cruz counties were each represented by three communities. The current AMN site of Mexican Colony CDP (a proxy for Shafter), was present within the top 30 communities on the fumigant list, while other AMN sites of Pajaro CDP, Guadalupe City, and El Rio CDP were on both the fumigant and OP lists.

Due to limited funding, DPR prioritized communities that ranked on both lists. Since the current AMN sites of Oxnard, Santa Maria, Watsonville, and Shafter all ranked in the top 30 of one or both lists, these four sites have been selected as the locations for 2021 as well. These locations will provide an opportunity to continue trend analysis with the added benefit of equipment and logistics that are already in place. DPR will resume sampling at full capacity in January 2021. All four sites will be managed by DPR, with laboratory analysis performed by the California Department of Food and Agriculture (CDFA) lab.

Committee Comment

David Ting asked if the sampling schedule will remain the same as in previous years (a 24-hour sample, once a week). Jazmin Gonzalez replied that the sampling process will remain the same, clarifying that the sampling days are randomized to capture the full range of use.

David Ting asked if all pesticides will be monitored on the same schedule, considering some pesticides have more health concerns regarding acute exposure while others have more concerns regarding chronic exposure. Jazmin Gonzalez replied that all of the pesticides are monitored in the same 24-hour sample. Edgar Vidrio clarified that the AMN focuses on sampling for pesticides found in ambient air to determine potential for long-term exposures. Edgar added that

the department conducts additional targeted studies that focus more directly on one or two pesticides during the period and region of highest use to gather data on peaks for acute exposure.

Matt Hengel asked if DPR still uses XAD resins for residue screens, or if the department had switched to other media. Jazmin Gonzalez replied that the multi-resolution screen uses XAD resin and the MITC screen uses charcoal tubes. Jazmin added that the media used has remained consistent for several years.

Public Comment

James Nakashima asked for clarification on the boundaries for the local zone. Jazmin Gonzalez replied that the local zone is the area one mile out from the community boundary edge.

James Nakashima asked if monitoring efforts in Parlier and Delhi have been suspended. Jazmin Gonzalez that monitoring efforts in those locations are ongoing, with no gaps in data.

Anne Katten asked how far Mexican Colony is from the Shafter monitoring site. Jazmin Gonzalez replied that Mexican Colony is approximately three miles away from the Shafter site.

5. Agenda Items for Next Meeting

The next meeting is scheduled for January 15, 2021 at 10:00 a.m. This meeting will be held virtually on the Zoom platform and broadcast live on the [CalEPA webcast page](https://video.calepa.ca.gov/). <video.calepa.ca.gov/>

6. Adjourn