



**PESTICIDE REGISTRATION  
AND EVALUATION COMMITTEE (PREC)  
Meeting Minutes – January 17, 2020**

**Committee Members/Alternates in Attendance:**

Amalia Neidhardt – Department of Industrial Relations (DIR) – via webcast  
Dave Tamayo – Structural Pest Control Board (SPCB)  
Karen Morrison - Department of Pesticide Regulation (DPR)  
Kevi Mace-Hill – California Department of Food and Agriculture (CDFA)  
Lynn Baker - Air Resources Board (ARB)  
Matt Hengel - University of California, IR-4 Program  
Ouahiba Laribi - Office of Environmental Health Hazard Assessment (OEHHA)  
Patti TenBrook – U.S. Environmental Protection Agency, Region 9 - via webcast  
Paulina Kolic – Department of Resources Recycling and Recovery (CalRecycle)  
Ruben Arroyo – CA Agricultural Commissioners and Sealers Association (CACASA)

**Visitors in Attendance:**

Artie Lawyer – Exponent  
Brad Hooker - Agri-Pulse  
Emily Saad – Exponent  
Lindsey Batty - California Olive Committee  
Stephanie Hung - Office of Environmental Health Hazard Assessment (OEHHA)

**DPR Staff in Attendance:**

Aron Lindgren – Pesticide Registration Branch  
Atefeh Nik - Pest Management and Licensing Branch  
Brenna McNabb – Pesticide Registration Branch  
Chris Collins – Environmental Monitoring Branch  
Denise Alder – Pesticide Registration Branch  
Emily Bryson – Worker Health and Safety Branch  
Emma Colson – Worker Health and Safety Branch  
Edgar Vidrio – Environmental Monitoring Branch  
Eric Denemark – Pest Management and Licensing Branch  
Jordan Weibel - Pest Management and Licensing Branch  
Kara James – Pesticide Registration Branch  
Ken Everett – Director’s Office  
Laura Benn – Pesticide Registration Branch  
Michelle Armstrong – Enforcement Branch  
Minh Pham – Environmental Monitoring Branch  
Nathan Desjarlais – Enforcement Branch  
Parissa Naef - Enforcement Branch  
Regina Sarracino - Enforcement Branch

**DPR Staff in Attendance continued:**

Russell Darling - Pesticide Registration Branch  
Shelley DuTeaux - Human Health Assessment Branch

**1. Introductions and Committee Business – Karen Morrison, Chair, DPR**

- a. Approximately thirty-five (35) people attended the meeting.
- b. DPR is hosting a brown bag panel entitled Pollinator Protection: A California Update featuring speakers from DPR, the County Agricultural Commissioner System, California Department of Food and Agriculture, and Pollinator Partnership. The event will be held on February 5, 2020 at 12 p.m. in the Sierra Hearing Room on the second floor of the CalEPA building at 1001 I St, Sacramento, California. For more information, visit <https://www.cdpr.ca.gov/docs/dept/brownbag/>
- c. DPR will host the Integrated Pest Management (IPM) awards ceremony on February 20, 2020.
- d. Grant solicitation for the Chlorpyrifos Alternatives Grant and the Alliance Grant closes on February 7, 2020. For more information, visit <https://www.cdpr.ca.gov/dprgrants.htm>
- e. A series of Hmong outreach videos were recently posted to the DPR website, marking the first marketing materials specifically targeted to Hmong speakers.
- f. The public health exemption regulation is anticipated to be effective summer 2020.
- g. The field fumigation post regulation is anticipated to be effective summer 2020.
- h. The expansion of restricted materials to include the active ingredient carbaryl is anticipated to be effective summer 2020.
- i. The 2020 rulemaking calendar will be posted to the DPR website in February 2020
- j. Chlorpyrifos alternative workgroup workshops were held on January 14 in Fresno and January 16 in Sacramento. The final workshop will take place on January 21 in Oxnard. More information is available on the DPR website.

**2. School Pesticide Use Report - Eric Denmark, DPR**

The Healthy Schools Act states “It is the policy of the state that effective least toxic pest management practices should be the preferred method of managing pests at schoolsites and that the state, in order to reduce children’s exposure to toxic pesticides, shall take the necessary steps, pursuant to this article, to facilitate the adoption of effective least toxic pest management practices at schoolsites” (FAC §13182). One piece of the Integrated Pest Management (IPM) process, and the focus of this presentation, is school pesticide use reporting. In 2015, school pesticide use reporting expanded to include school staff who apply pesticides, in addition to contracted pesticide applicators, giving a more complete view of pesticide use at schools. This program is paper-based, receiving around 100,000 reports each year. The database provides detailed information, down to individual applications, about trends in landscape, structural, and vertebrate pest management. Analysis of this data reveals areas for improvement in IPM at schools, and experience has demonstrated that targeted outreach based on this data is possible.

The method currently used by DPR to analyze school pesticide use report data is based on the number of pesticide applications, as opposed to the amount of pesticide active ingredient applied method used for agricultural pesticide use reporting. One application is defined in terms of one schoolsite, product, and date. Utilizing the number of applications offers several benefits for school pesticide use reporting. Firstly, this method is robust against errors and outliers, so that individual data entry errors will not skew the data analysis. Focusing on number of applications can also reveal pest management or IPM problems. For example, repeated applications of a general insecticide on a recurring schedule may indicate a pest problem that is not being resolved. Finally, each pesticide application is an opportunity for exposure, and fewer applications inherently reduces the risk of exposure. Measuring pesticide use by number of applications allows the department to take all of these factors into account during analysis, for a more accurate and detailed view of school pesticide use. The data analysis process is outlined in chapter four of *Managing and Analyzing Pesticide Use Data for Pest Management, Environmental Monitoring, Public Health, and Public Policy*, published by American Chemical Society in partnership with DPR.

Starting in 2015, DPR began publishing annual school pesticide use reports. The report for 2017 was recently published and includes a detailed analysis on pesticide use by class, applicator, timing, active ingredient, and many other facets. This analysis has shown that while most insecticide and rodenticide applications are conducted by contractors, the majority of herbicide applications are conducted by school staff. Understanding this division of application allows DPR staff to focus outreach efforts by audience, using relevant examples and addressing the specific safety factors for each group. The data shows that while insecticides constitute the most frequently applied class of pesticides, they also have the greatest diversity of products used, whereas in the class of herbicides, one active ingredient dominates the majority of applications. Rodenticides, which are the least frequently applied class of pesticides, have a moderate diversity of products used. An analysis of applications by day of the week shows that there are much fewer applications on Sundays and more applications on Saturdays, including more danger/poison applications, such as those used to control gophers.

The DPR data steward compiled over 700,000 school pesticide applications into a histomap, a comprehensive graph representing the history of all reported school pesticide applications from 2002 through 2017. The histomap visualizes the percent of reports by chemical class across the horizontal axis and year and month across the vertical axis. In 2002, DPR received reports for roughly 8,000 rodenticide applications, 20,000 insecticide applications, and 1,400 herbicide applications conducted by 232 pest management companies across 3,560 schoolsites. In 2017, DPR received reports for roughly 26,000 rodenticide applications, 48,000 insecticide applications, and 33,000 herbicide applications conducted by 787 pest control companies, school districts, and child cares across 8,367 schoolsites. It is important to note that these increases are related to increased compliance over time as well as the change in the law requiring reporting of applications conducted by school staff.

The largest change in rodenticide applications can be tied to the aluminum phosphide label change, during the 2010-2012 period. This label change was a result of accidental poisoning

incidents and strictly prohibited the use of aluminum phosphide products at schools (except athletic fields). Since the label change, burrow fumigants have largely been replaced by single feed rodenticides. With gopher control products removed from the dataset, second generation rodenticides (predominately bromadiolone) are being reported more often than first generation rodenticides (predominately diphacinone).

Insecticide applications have consistently been heavily based in pyrethroids, with bifenthrin constituting an increasing percentage of applications, followed by deltamethrin. Other major pyrethroids, such as cyfluthrin, beta-cyfluthrin, lambda-cyhalothrin, and permethrin, make up a decreasing proportion of pesticide use reports. When sorted by individual product use, bifenthrin shows the highest diversity, while deltamethrin and lambda-cyhalothrin each appear to be dominated by one main product. In 2008, a new active ingredient, indoxacarb, started to take hold as a growing percentage of insecticides, primarily in ant bait. At the same time, DPR promoted ant baits as a reduced-risk pest management strategy for schools. The data shows that use of indoxacarb products without “bait” in the name has remained fairly rare and steady, while products with “bait” in the name have been the basis of the increasing share of indoxacarb applications.

The data shows a large increase in the number of herbicide applications in 2015 when schoolsites began reporting applications conducted by staff. In addition, the number of applications peak several times throughout the year, typically around February, June, and October. After comparing data across school districts in various regions throughout the state, DPR staff found a strong correlation between the timing of applications and regional weather patterns. The number of applications appears to stay constant in areas where the weather is warm year-round. Though some areas have reported herbicide use when temperatures are too low for the products to be effective, the general trend shows the number of applications dropping significantly in colder months.

In order to evaluate school district pesticide use in a fair way, DPR plotted a chart that showed the reported applications per district and the number of schools per district. This allowed staff to determine a baseline of the average number of applications per school, with outliers reflecting districts that would benefit most from targeted outreach. Targeted outreach has predicted conflicts between pest management and parents at specific school districts, allowed staff to work with districts that may not have otherwise been engaged, and provided a fair and documented method for prioritizing training and outreach.

### **3. New Paraquat Labels and Requirements - Nathan Desjarlais, DPR**

Paraquat was first federally registered in 1964. According to a 2018 U.S. EPA analysis, there were many fatalities associated with paraquat in the 1960s and 1970s. As a result, the registrant added a safening agent in 1988, to deter accidental ingestion and misuse. All paraquat products are currently Restricted Use Pesticides, meaning that these products must be applied by a certified applicator, not someone under the supervision of a certified applicator. No paraquat products are registered for residential use.

California listed paraquat as a restricted material in May 1974, due to its toxicity to people. As a restricted material, use of paraquat requires a restricted material permit from the County Agricultural Commissioner's office. There are currently two California regulations specific to paraquat: one for paraquat aerial application restrictions and one for the use of paraquat as a cotton harvest aid. Between 2000 and 2014, accidental ingestion of paraquat caused 17 deaths, including three children. Many of these deaths resulted from the illegal transfer of paraquat to beverage containers. There were also three deaths and many severe injuries as a result of paraquat getting on the skin or in the eyes of the handlers. Paraquat is highly toxic through all routes of exposure and there is no known antidote.

In 2016, U.S. EPA issued human health mitigation measures to minimize human health incidents associated with paraquat. These mitigation measures restricted the use of paraquat to certified applicators only, gave targeted stewardship and training materials to paraquat users, emphasized paraquat toxicity on the label and supplemental warning materials, and required closed system packaging and closed transfer system for end-use containers less than 120 gallons. U.S. EPA implemented these changes in three phases. Phase one was mostly related to changes to the product labeling, including the restriction to certified applicators, the addition of an online training statement, and labeling to highlight the toxicity of the product. In phase two, U.S. EPA approved the online paraquat training and registrants were required to submit closed system prototypes to U.S. EPA and end distribution of all products that were not in compliance with the labeling requirements of phase one. Finally, in phase three, registrants added labeling requiring a closed transfer system and closed packaging system. At this time, registrants were also required to end distribution of all products that were not in compliance with phase 3.

The restriction of paraquat to certified applicators has several implications in California. For growers, the applicator must have a Private Applicator Certificate, a Qualified Applicator License (QAL), or a Qualified Applicator Certificate (QAC) with Category D. For pest control businesses, the applicator must have a Journeyman Pilot Certificate, a QAL, or a QAC with the appropriate category. Before mixing, loading, or applying paraquat, applicators must take a U.S. EPA-approved training program developed by the registrants. The website address in the online training statement of the label takes applicators to a site that includes more information about the mitigation decisions, a link to the online training module, and a section containing frequently asked questions. In addition to appropriate handling, storage, disposal, and personal protective equipment requirements, the paraquat training reinforces that these products must not be transferred or stored in improper containers, as well as highlighting the risk of use and misuse of paraquat. Applicators are required to retain a certificate of completion and must complete the training a minimum of every three years.

Label changes emphasizing toxicity include required statements on the front panel of the labeling and inside the label booklet. These statements reiterate the corrosiveness of the product, the importance of transferring the product only into containers explicitly intended for pesticides, and the prohibition of use in residential or public recreational settings. In addition, U.S. EPA requires additional supplemental warning materials. One such item is a warning sticker, affixed to the cap of all paraquat containers, stating "Danger - one sip can kill" in English and Spanish with a skull

and crossbones inside a red diamond. All paraquat products also require a “product package safety requirements sticker” on the back of the container that reiterates important warning statements. Finally, a “counter card” echoing the same important warning information will be distributed with every paraquat container. DPR reviewed and accepted revised product labeling for nine of the ten registered paraquat products. One registrant chose to inactivate the product. Although U.S. EPA required registrants to stop distribution of products not in compliance with phase one labeling, end users may continue to use products with previously approved labeling until the stock is exhausted, provided the use is compliant with the labeling on the package. If both new and older stock are being used simultaneously, the most restrictive requirements prevail.

U.S. EPA has accepted registrants’ revised phase three labels for some paraquat products, though none have been submitted to DPR yet. Per U.S. EPA’s timeline, registrants have 12 months from the federally accepted label stamp date to end distribution of products which do not comply with phase three requirements. These requirements, which are not yet in affect in California, call for closed transfer systems on containers less than 120 gallons when transferring the product out of the original container and all subsequent transfers. The storage and disposal section requires containers less than 120 gallons be rinsed while maintaining the closed system connection to the application equipment or mix tank. The labeling further prohibits any attempt to circumvent the closed transfer system prior to complete removal of the product and rinsing the container. The U.S. EPA-approved standards for closed system containers prohibits screw caps or other ways to open and decant the container. The closed system is achieved through the use of a valve, which may only be removed from the container once it has been rinsed and drained. The valve must be removed from the container before offering the container for recycling.

#### **4. Product Compliance Overview - Parissa Naef, DPR**

In addition to product compliance activities, enforcement staff are also responsible for enforcing laws and regulations pertaining to all pesticide use activities, including oversight of the county agricultural commissioner programs, investigation of pesticide related illnesses and other high level incidents, and for conducting an extensive pesticide residue monitoring program for fresh produce. The product compliance program’s primary focus is the state and federal registration of pesticide products offered for sale in California. California has had a product compliance program since the early 1900s. The primary focus of the early program was to ensure products were what they were purported to be and not adulterated or misbranded.

There are currently 1,500 pesticide registrants, 900 pest control dealers, and 300 pesticide brokers, with over 13,000 products registered for sale in the state of California. To ensure these products are in compliance with both federal and state pesticide laws, DPR field inspectors conduct over 300 product compliance inspections each year. These inspections are conducted anywhere pesticides are manufactured, processed, packaged, held, and offered for sale. Inspections are conducted at brick-and-mortar retail locations throughout the state, as well as online retail websites. Inspection staff are based out of all three DPR regional offices - West Sacramento, Clovis, and Santa Ana - as well as the headquarters office in Sacramento. The major

focus of the product compliance program now is ensuring that products are registered, and that the labels in the field conform to that which has been approved by the DPR registration branch, through a marketplace surveillance inspection. The video played during this presentation and available at <https://www.youtube.com/watch?v=IDZCHx8QYfQ> highlights standard inspection activities. Inquiries and tips related to the sale of pesticide products can be directed to [ProductCompliance@cdpr.ca.gov](mailto:ProductCompliance@cdpr.ca.gov).

## **5. Committee Comment**

Ruben Arroyo asked for clarification on how “organization” was defined on slide nine of the school pesticide use report presentation. Eric Denemark responded that in this use, an “organization” is either a pest control business, a school district, or a child care center.

Ruben Arroyo asked if there has been a data comparison between school pesticide use reporting and reports of pesticide exposure on school grounds to find potential correlations. Eric Denemark replied that no formal evaluation has been conducted, but that analysis would be beneficial. Ruben added that the Healthy Schools Act does not include regulations for the authority to enforce schoolsite pesticide use reporting and notification of application. Eric responded that while the language of the Healthy Schools Act does not explicitly lay out this authority, DPR has had success in encouraging compliance by working closely with the Department of Education and school IPM administrators.

Dave Tamayo asked if there was a plan or timeline to move from paper-based school pesticide reporting to an electronic format. Eric Denemark responded that he is not aware of any timeline. Karen Morrison added that many of the department’s systems are still paper-based, and that they are generally looking at how to transition from various historically paper-based systems to electronic options that would allow for easier submissions, tracking, and data analysis. Ruben Arroyo commented that an online reporting system for agricultural pesticide use was developed in partnership with DPR, and has been very effective. Ruben added that while the technology exists, it may be more difficult to find funding to implement a similar system for school pesticide use reporting, due to the lack of enforcement authority under the Healthy Schools Act.

Dave Tamayo asked if other analysts are using the number of pesticide applications for use reporting and analysis, as opposed to the amount of active ingredient. Eric Denemark replied that, to the best of his knowledge, the reporting and analysis by number of applications is unique to this program, but would be useful in other scenarios as well.

Matt Hengel asked about the lack of fungicides in the school pesticide use report, adding that there are several registered uses that would be relevant to school campuses. Eric Denemark replied that there have been fungicide uses reported, but they constitute a very small percentage of pesticide applications. Eric added that this may be due to the fact that landscaping and herbicide applications are typically done by the school district staff, who may not be as familiar with the more selective products for landscaping.

Ouahiba Laribi asked if DPR collects the amount of pesticides used at schools or only the number of applications. Eric Denmark responded that while the amount is reported, analysis based on the number of applications is more effective in this context.

Ouahiba Laribi asked if the school pesticide use report includes information on the number of students, size of the school, or proportion of indoor and outdoor surfaces. Eric Denmark responded that a comparison between indoor and outdoor applications is included in the 2015 report, but about 25 percent of applications are reported as “multiple locations” which are not specific to indoor or outdoor use, rendering the data unusable. Eric added that another program, the Pesticide Illness Surveillance Program, collects this data and includes exposures from disinfectants and sanitizers, which are exempt from reporting under the Healthy Schools Act. Ouahiba clarified her question to refer to the number of students. Eric responded that DPR has run an early analysis of per capita applications based on the number of students in each district, but has not yet done anything more thorough.

Dave Tamayo asked how DPR has used the school pesticide use report data to determine schools that were not following IPM. Eric Denmark responded that this can be determined by analyzing the number and frequency of pesticide applications throughout the year. Eric explained that increasing the frequency or strength of pesticide used is an indicator that the applications are not addressing the underlying pest issue. Dave asked how DPR follows up with schools when this pattern is uncovered. Eric responded that sometimes showing the data to the school district is sufficient, but if the pattern continues, Eric may contact the school district to request to provide training to school staff or suggest a partnership with a University of California Advisor.

Ouahiba Laribi asked how enforcement staff determine which products to inspect at each location. Parissa Naef replied that staff inspect every pesticide product at each location. Ouahiba asked how long a normal inspection takes. Parissa responded that an inspection may last several hours, depending on the number of products offered for sale. Parissa added that there are typically no more than two or three inspections in a given day, and in the case of pesticide dealers, there may be only one.

Ruben Arroyo asked if the inspectors evaluate online retailers as well. Parissa Naef responded that all inspection staff conduct brick-and-mortar as well as online inspections. Parissa added that online retailers are becoming more of a focus for enforcement as more pesticide sales are conducted online.

Ruben Arroyo asked if enforcement staff also inspect clothing items that are labeled with pesticidal claims. Parissa Naef answered that these items, often found at outdoor recreation retailers, are considered pesticide products, and are therefore subject to inspection.

Lynn Baker asked if discovery of non-compliance of a product at a retail location triggers future additional inspections at that location. Parissa Naef replied that products found in violation are brought to the attention of the retailer during the inspection, and that almost all retailers choose to remove the product immediately. Since staff observe and document this action, a follow-up



inspection is unnecessary. Parissa added that the program utilizes a rotation to try to inspect as many different types of retail locations as possible, to cover more of the state.

Ouahiba Laribi asked how frequently enforcement staff find pesticide products that are not compliant, and if there is a difference in compliance between online and brick-and-mortar establishments. Parissa Naef answered that staff find products in violation at half or fewer inspection locations and there has not been a noticeable difference in compliance between online and brick-and-mortar retailers. Parissa added that sometimes retailers are not aware that a product is unregistered or even that it qualifies as a pesticide, at which point staff provide education and outreach.

Lynn Baker asked if enforcement has seen a difference in pesticide product compliance between independent establishments and national chains. Parissa Naef answered that there has not been a noticeable difference and that most retailers are very cooperative, adding that some national chains will recall products from all locations if a non-compliant product is found in one location. Parissa reiterated the fact that many retailers are not aware of DPR enforcement activities and that these interactions offer an educational opportunity to explain the importance of pesticide registration and compliance for the safety of California's consumers and environment.

## **6. Public Comment**

Justine Weinberg asked if DPR looks at the size of the district or school to normalize pesticide application data. Eric Denmark confirmed and referred to the chart in the presentation that shows the number of applications per district plotted against the number of schools per district, and the average applications per school baseline.

Artie Lawyer asked if DPR has looked into the schools that fall below the average pesticide applications per school baseline to determine what strategies they employ. Eric Denmark responded that in some cases, schools are not aware that certain products they use are pesticides and should therefore be reported. Eric added that if DPR receives a complaint about a district, they will look at pesticide applications at individual schools within the same district to provide an example of best practices.

Shelley DuTeaux asked for an update on what enforcement staff have found at hydroponics stores. Parissa Naef replied that about a year ago DPR started to put more focus on hydroponics stores due to the changes in regulations around cannabis. Parissa added that inspection of hydroponics stores has given DPR an opportunity to provide outreach and education to the cannabis cultivation community about the importance of pesticide registration. Parissa commented that staff have seen a trend toward 25B or U.S. EPA exempt products in hydroponics retailers, some of which do not qualify for the registration exemption. Regina Sarracino added that inspections of hydroponics stores also occurred before the legalization of cannabis.

Artie Lawyer asked how enforcement staff verify that the product label on the item is the most current registered version. Parissa Naef that while there are still limitations to accessing the fully

registered product label in the field, staff will verify the label upon return to the branch by pulling the product file. Parissa added that enforcement also collects samples of pesticide products, which may find active ingredients not listed on the label or outside of the acceptable range.

Emily Saad asked for a description of the difference between enforcement inspections and other audits that occur at DPR. Parissa Naef explained that inspection and audit staff work closely together, but marketplace surveillance inspections and producer establishment inspections are conducted by the enforcement branch under an agreement with the EPA, whereas audits are conducted by the fiscal, audits, and business services branch. Parissa added that auditors visit registrants and other entities, such as brokers, that sell pesticides into California and do a full audit of every product being sold.

#### **7. Agenda Items for Next Meeting**

The next meeting is scheduled for March 20, 2020 at 10:00 a.m. in the Sierra Hearing Room on the second floor of the CalEPA building, located at 1001 I Street, Sacramento, California.

Dave Tamayo requested an update on how DPR plans to mitigate imidacloprid in receiving waters.

Dave Tamayo requested more information on the extent to which DPR uses surface water data, as part of the registration process, in looking at potential impacts in drinking water. Karen Morrison clarified that the surface water team reviews incoming registration submissions to the extent that there are certain characteristics about the product that would indicate that they might enter receiving waters or surface water. Karen added that data collected through the surface water monitoring program feeds into other efforts within the department, including risk assessments. Dave commented that it would be helpful to have an update on what the department is doing in terms of getting surface water information into considerations of potential drinking water impacts. Karen replied that many of the surface water sampling sites are not the same water supplies that feed into drinking water, so staff must consider layers within the data to determine what is appropriate to use as a proxy for drinking water.

#### **8. Adjourn**