



**PESTICIDE REGISTRATION
AND EVALUATION COMMITTEE (PREC)
Meeting Minutes – May 17, 2024**

Committee Members/Alternates in Attendance:

Edgar Vidrio – Department of Public Health (CDPH)
Fabiola Estrada – U.S. Environmental Protection Agency (EPA), Region 9
Garrett Keating – Department of Industrial Relations (DIR)
Heather Williams – Department of Resources Recycling and Recovery (CalRecycle)
Krista Hoffman – Department of Fish and Wildlife (DFW)
Katherine Sutherland-Ashley – Office of Environmental Health Hazard Assessment (OEHHA)
Fatemeh Ganjisaffar – California Department of Food and Agriculture (CDFA)
Lisa McCann – State Water Resources Control Board (SWRCB)
Stanley Armstrong – Air Resources Board (ARB)
Matt Hengel – University of California (UC), Davis, Environmental Toxicology
Kari Arnold – University of California (UC), Davis, IR-4 Program
Stephen Scheer – CA Agricultural Commissioners and Sealers Association (CACASA)
Tom Ineichen – Structural Pest Control Board (SPCB)
Tulio Macedo – Department of Pesticide Regulation (DPR)

Visitors in Attendance:

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

Anne Katten – California Rural Legal Assistance Foundation
Ashwini Kulkarni – SBM Life Science Corp
Bianca Lopez – Valley Improvement Project
Cathy Elmi
Gerry Gomez
Grace Kistner
James Nakashima – Office of Environmental Health Hazard Assessment (OEHHA)
Jasmin Ramirez Bonilla
Jayne Walz – Helena Agri-Enterprises, LLC.
Jing Tao – Office of Environmental Health Hazard Assessment (OEHHA)
Julie Schlekau
Karen Da Silva
Laura Parks – SBM Life Science Corp
Lia Murty
Marcia Trostle
Michael Barber – SBM Life Science Corp
Ouahiba Laribi – Office of Environmental Health Hazard Assessment (OEHHA)
Terrell Barry
Vicki Ghaffarzadeh
Zenna Scarlett

DPR Staff in Attendance:

Aisha Iqbal – Pesticide Registration Branch
Alyssa Knudsen – Pesticide Registration Branch
Andrew Rubin – Human Health Assessment Branch
Andrew Turcotte – Pesticide Registration Branch
Aniela Burant – Environmental Monitoring Branch
Anna Kalashnikova – Human Health Assessment Branch
Anna Madison – Pesticide Registration Branch
Atefeh Nik - Human Health Assessment Branch
Brandon Brown – Human Health Assessment Branch
Brendan Darsie – Human Health Assessment Branch
Brittanie Clendenin – Pesticide Registration Branch
Chunbo Zhang – Human Health Assessment Branch
Erik Kwok – Human Health Assessment Branch
Jazmin Johnson – Environmental Monitoring Branch
JT Teerlink – Pesticide Programs Division
Joy Dias – Environmental Monitoring Branch
Maziar Kandelous – Environmental Monitoring Branch
Minh Pham – Environmental Monitoring Branch
Nan-Hung Hsieh – Human Health Assessment
Daisy (Qiaoxiang) Dong – Human Health Assessment Branch
Scott Tiscione – Human Health Assessment Branch
Shelley DuTeaux – Human Health Assessment Branch
Svetlana Koshlukova – Human Health Assessment Branch
Taylor Whitehill – Pesticide Registration Branch

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

- a. Approximately sixty three (63) people attended the meeting.
- b. The committee would like to acknowledge Lynn Baker’s retirement with over 20 years of serving on the PREC.
- c. DPR recently amended section 6130 of Title 3 of the California Code of Regulations. This action increased the fine range for administrative civil penalties levied by county agricultural commissioners from a maximum of \$5,000 to a maximum of \$15,000 for Class A violations of pesticide use law and from a maximum of \$1,000 to a maximum of \$3,000 for Class B violations of pesticide use law. These changes are effective July 1st.
- d. May 17 is the final day to submit comments on DPR’s proposed registration fee increase. Comments submitted by U.S. mail must be postmarked with May 17 date or emailed to RegFees@cdpr.ca.gov.
- e. DPR is accepting public comments on its proposal to increase the licensing certification, exam, and renewal fees. Comments are accepted through next Friday, May 24th, and can be emailed to LicenseFeeChange@cdpr.ca.gov.

2. Risk & Exposure Assessment of Non-Agricultural Uses of Imidacloprid – Shelley DuTeaux, PhD MPH and Svetlana Koshlukova, PhD, DPR

Starting with the health assessment history of the assessment of imidacloprid, in 2006 DPR's Medical Toxicology Branch, now known as the Human Health Assessment Branch (HHA) issued a Food and Drinking Water Risk Characterization Document for imidacloprid. In March 2018, the department prioritized imidacloprid for a more comprehensive risk assessment covering all routes of exposure, all subpopulations, and all uses. While drafting the assessment, the DPR's Groundwater Protection Program requested that HHA conduct a health evaluation of imidacloprid residues in groundwater. This was part of the initiation of the department's efforts under the Pesticide Contamination Prevention Act (PCPA). A memo was published on the health effects of drinking water in 2019. Then after additional monitoring data was received, the memo was revised and updated. In 2021 the revised memo was published that used some of the data used in the 2006 assessment, but also new studies. All was discussed in hearings that the department had for the PCPA in March and April of 2022. In June 2022, Director Julie Henderson published her findings. All of the imidacloprid documents are available on Department of Pesticide Regulation (DPR) website.

The risk assessment that was started in 2018 was initially designed as a comprehensive overview of imidacloprid use and its impacts to human health. The agricultural uses, consumer and home products, structural pest control and invasive species control were studied. It also included all populations who might be exposed, including pesticide handlers, reentry workers and field workers, child and adult bystanders, and those who might be exposed to spray drift. Over 200 registered products, over 100 representative scenarios, and over 4000 scientific studies were examined. While drafting, two important things happened in legislature and in regulation. First, in October 2023 Assembly Bill (AB) 363 was passed and signed into law by Governor Gavin Newsom. The bill requires DPR to evaluate the potential impacts of neonicotinoid pesticides, of which imidacloprid is one, in non-agricultural settings and adopt any control measures as needed. In addition, 4 other neonicotinoid pesticides were added including acetamiprid, clothianidin, dinotefuran, and thiamethoxam. In January 2024, DPR initiated changes to title 3 of the California Code of Regulations (CCR) 6990-6990.16 et seq, which increased pollinator protection from agricultural use of neonics, including imidacloprid. Because of these significant changes to agricultural use in California, there are anticipated changes to use rates and even the overall application of imidacloprid in production agriculture. This would lead to changes in estimation of occupational and bystander exposure from the scenarios in the studies. Instead of making assumptions of what the changes might be, the agricultural and non-agricultural uses were separated, and DPR will be doing an exposure assessment in the near future after new data on impacts of changes in agricultural use become available.

The current assessment is now specifically focused on non-agricultural uses of imidacloprid, with the caveat that dietary and drinking water exposure assessment is part of the assessment, even though residues or concentrations of imidacloprid in food and diet occurs from agricultural use. This will account for the potential exposure of imidacloprid just in the general population

and in sensitive subpopulations from any kind of residue in food, which was an extensive part of exposure analysis.

Currently, there are 233 actively registered imidacloprid containing pesticides in California. Some are manufacturing use grade products, but others are formulated products, and they cover a wide range of uses including residential and consumer products – applied indoors like controlling ants on carpet, sprayed around residential buildings, and used in landscape maintenance and even in parks. There are also institutional uses to control insects in industrial and commercial buildings. In addition, multiple animal products are used to control fleas and ticks. Other non-food non-agricultural uses of imidacloprid include controlling insects on field borders, wood structures, and along roadways.

According to the data from Pesticide Use Reporting database for the last available 5 years, on average about 380,000 pounds of imidacloprid are used annually. The data combines agricultural and non-agricultural use by licensed applicators, and it doesn't reflect home and garden products or industrial institutional uses. There was a slight trend downward of use to 2021 (the last data that is publicly available). The major use sites are largely in agricultural areas, but structural pest control applications and landscape maintenance do comprise parts of the use sites.

In terms of the human health effects, one can be exposed by all routes of exposure through skin, through inhalation, and through the oral route or dietary exposure. Also considered are incidental non-dietary oral exposure, which is when one accidentally or incidentally touch a treated surface and may have some hand to mouth contact. This can be important for a certain age range of children, like toddlers who have a lot of hand to mouth activities. Imidacloprid is considered non-volatile, so it does not have the vapor pressure to become volatile in airspace and become inhalable in the breathing zone. However, there are some application methods that can take a liquid imidacloprid product and create mists or fine droplets that can be inhaled. This is important for the occupational exposure and was considered when looking at those specific scenarios.

Imidacloprid is a neonicotinoid insecticide. The root word is nicotine, so high levels of acute exposure produce similar symptoms to nicotine overdose with symptoms such as nausea, vomiting, headache, and diarrhea. Imidacloprid can also affect the skin, the throat, and the eyes and can be irritating to the membranes as well as cause skin rashes for people who might be exposed for a longer term. The most serious effects in poisoning events include respiratory failure, tachycardia, reduced levels of consciousness or even seizures. The United States Environmental Protection Agency (U.S. EPA) has classified imidacloprid as not likely to cause cancer in humans after long term or chronic exposure.

As part of the evaluation of the human health effects of imidacloprid, over 5800 adverse effects reports were reviewed that were submitted to DPR or U.S. EPA. Reports from U.S. EPA were collected since 2002 and not specific to California but are required to be submitted to the department under the California Food and Agricultural Code (FAC) Section 12825.5 and under Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) section 6(a)(2). While analyzing

the reports, the majority of the contributing factors to human adverse effects were inadvertent spray exposure, leaks and spills, contact with treated surfaces, and post-application exposure to indoor air. A majority of the adverse effects were related to agricultural activity. The results were filtered to focus on non-agricultural activity: 62% were associated with pet products, 18% were treatment of bed bugs and other household insects, and 12% associated with landscape maintenance activities.

Human exposure studies and epidemiology studies were examined with literature review. Fifty-four studies were found to involve human exposure, sixteen of those were focused on occupational exposure, such as someone who might work in a vineyard or veterinarians who were applying flea and tick products. A majority of these studies are designed to quantify internal doses and do so by measuring the insecticide or the chemical in biomarkers in urine and blood. The studies were not associated with finding an adverse health outcome, rather designed to show the external exposure and what does it mean in terms of an internal dose.

To look at potential health outcomes of exposure, epidemiology studies were examined; there were 21 studies found in the open literature, six of which were conducted in California. Overall, the studies were focused on a wide variety of health outcomes including osteoporosis and liver cancer. Many of the studies showed no association with imidacloprid exposure, apart from two studies which showed a possible link with Tetralogy of Fallot, a congenital heart defect, and neural tube defects. It is challenging to incorporate human exposure or epidemiology studies into quantitative risk assessment because of limited exposure data and inconsistencies across studies in dose and effect. The value of the studies is that they add to the weight of evidence for overall imidacloprid toxicity. If something similar appears in animal and human studies, it can point to an area for further investigation.

The toxicological profile and hazard identification steps of the imidacloprid risk assessment. Imidacloprid is a neonicotinoid insecticide with systemic and contact actions. It was synthesized in the 1980s by scientists in Japan, and the molecule was found to be insecticidal. Essentially it represents an optimized version of the nicotine molecule. Nicotine has long been known for its insecticidal properties but degrades faster under the sun therefore not practical for use out in the field. Imidacloprid contains the insecticidal pyridinyl moiety and nitroimine moiety which increases its stability in the field.

Compared to nicotine, imidacloprid is more selective towards insects relative to mammals. The mode of action of imidacloprid refers to its ability to kill insects and cause toxicity to mammals. The mode of action is dependent on its binding to a specific type of receptor called nicotinic acetylcholine receptor (nAChR) at certain neuronal synaptic junctions present in both mammals and insects' central nervous system. Mammals are unique in having nicotinic acetylcholine receptors at the neuromuscular junctions. The inactive form of the receptor gets activated when its natural ligand in the body called excitatory neurotransmitter acetylcholine (ACh) binds to its binding site on the receptor. The receptor opens a pore which becomes permeable to certain ions and then nerve impulses are triggered. The overstimulation of the receptor would lead to overstimulation of the nervous system, so there are enzymes which cleave ACh and inactivates

the receptors. Imidacloprid mimics ACh and binds to the binding site, but it cannot be cleaved or hydrolyzed by the enzyme. This leads to the nervous system being overstimulated resulting in incoordination, tremors, decreased activity, reduced body temperature and sufficiently high doses death.

The toxicity database consists of registrant submitted toxicology studies, with over fifty studies submitted as part of the registration process in California. The studies are conducted according to federal guidelines for toxicity studies as well as follow good laboratory practices. The studies go all the way from acute to the most specialized developmental neurotoxicity studies. In addition, the database contains studies published in the open literature. The last comprehensive systematic literature review was completed in August 2023. Over 4000 published studies and reports on human and animal health were identified. Only relevant studies that met the DPR data acceptance criteria were included and used for weight of evidence or in support of mode of action and critical effects. In animal studies across all studies and all routes and all durations, the most common effect that was observed was a decreased body weight. In acute studies after single or short-term exposures there were clinical signs and mortality, decreased motor activity and tremors was noted. Subchronic studies revealed organ weight changes, altered brain dimensions, altered behavior, immune system effects and thyroid lesions. Chronic studies showed lesions in the thyroid gland and thalamus as well as altered liver function.

Genotoxicity is the potential of a chemical to damage the genetic material, deoxyribonucleic acid (DNA) or chromosomes. Mutagenicity is the ability of a chemical to directly bind to DNA and cause damage. There was no mutagenicity seen in animal studies or in vivo for imidacloprid, but imidacloprid was positive in vitro tests for gene mutation and DNA damage.

Critical studies show the most sensitive effect which occur at the lowest tested dose in the entire database for a specific duration. These studies are critical because they establish critical points of departure or (POD). Critical POD is the highest dose at which no effects are expected in the organism. The developing nervous system appeared to be the most sensitive target. All PODs were based on effects observed in developmental neurotoxicity studies in rats. The most sensitive effects were seen in rats who also were the most sensitive animal species in oral studies.

Hazard identification is the next step in risk assessment where critical PODs are calculated and established for specific routes of exposure oral, dermal or inhalation as well as for specific duration. The duration should match the anticipated duration of exposure for humans.

Acute, subchronic, and chronic PODs were established for imidacloprid and were based on oral studies in rats. The oral POD were used to characterize exposures to dermal and inhalation routes. The critical acute POD was calculated as 5.5 mg/kg/day. It was based on reduced brain morphometry from a developmental neurotoxicity study in rats, this is the same endpoint used in the DPR's 2006 RCD. Reduced brain morphometry – when female pups are exposed in utero and through the milk during lactation were analyzed and evaluated at postnatal day 10. These animals showed reductions in certain brain areas specifically the corpus callosum thickness and the caudate putamen width. For subchronic POD the calculated POD was 1mg/kg/day. This POD

was not used in the previous 2006 RCD because it was recently submitted to DPR. The developmental neurotoxicity study showed altered negative geotaxis in rat pups. Negative geotaxis is a normal response or reaction that very young pups would not have, they develop it normally around postnatal day 9 or 10. In order to have this response they have to have properly developed motor function as well as vestibular function. Negative geotaxis is tested on an inclined platform where rat pups are put head down and are expected to turn around 180 degrees within one minute and then climb up the platform. Pups exposed to imidacloprid indirectly in utero and during lactation show higher incidences of pups who completed the turn correctly but froze and did not climb up. This is defined as altered negative geotaxis and was the basis for the critical subchronic POD. For chronic effect, the most sensitive effect was lesions in the thyroid gland. The POD for this effect was very close to the altered negative geotaxis POD for subchronic duration and there the subchronic POD was also used to characterize chronic exposures.

The US EPA classified imidacloprid as a Group E chemical which means evidence of non-carcinogenicity for humans. This classification was based on findings in chronic toxicity and carcinogenicity studies in rodents, rats and mice. DPR took a closer look at the carcinogenicity studies specifically the rat study where specific tumors were identified to appear as treatment related. These were tumors of the bile duct and were seen in 2 of the 50 males and 2 of the 50 females at the high dose. The tumor data were examined, and it was found that the tumor incidences were not significant and cannot be used to calculate a cancer potency value. Therefore, this risk assessment does not include a cancer risk estimate. The critical chronic POD of 1mg/kg/day, which is more than 100-fold lower than the dose causing tumors, would be protective of tumor formation in humans.

For DPR's exposure assessment, exposure was grouped into non-agricultural non-dietary exposure and dietary and drinking water exposure. For non-dietary nonagricultural use exposures, the product labels were examined and grouped into 5 major categories: landscape maintenance, turf maintenance and use in recreational areas, institutional use, residential use, and consumer products. DPR methodology for exposure assessment for human health is indirect estimation. This in contrast to direct estimation methodology which uses quantitative exposures from biomarkers or even dose reconstruction. The indirect method develops scenarios based on the legal label use, and from the worst-case scenarios, figuring out who might be exposed while doing various activities. The exposure scenarios are divided into non-agricultural professional handlers who are applying or preparing to apply the pesticide, reentry workers, and post application scenarios where a resident (child or adult) might be exposed following application inside or outside the home or areas they may visit. Exposure scenarios are further refined by using California-specific data and adjusted by protection factors associated with the required personal protective equipment (PPE). Overall, there were about 90–100 exposure scenarios that were developed for non-agricultural uses. Of those, about a quarter were of concern. The concerns included professional handlers that had short-term dermal and inhalation exposure when mixing and loading prior to aerial and ground applications. There were also short-term dermal exposures during aerial applications and combined dermal and inhalation exposure for

mixers and loaders preparing for soil application or preparation with the use of low-pressure hand wand that were of concern. Another concern were the reentry workers, such as individuals pruning flowers after the bush was treated with imidacloprid. For residential use and consumer products, over 5800 adverse effects reports indicated dermal exposure to adults when applying or using a flea and tick collar to companion animals (such as veterinarians, pet groomers, or pet owners). The other concern was children, specifically from dermal exposure to small and medium sized cats and all sized dogs who are wearing flea and tick collars, as well as dermal exposure to treated turf for children aged 3 to 8. And incidental oral contact for children in treated turf and park scenarios, backyard lawns specifically infants aged 1 to 2.

Dietary exposure assessment is calculated by multiplying the residue on a specific commodity by its consumption rate. For imidacloprid, all foods with tolerances and drinking water were included in analysis. Imidacloprid is registered for use on a large number of crops and over 100 tolerances were established by US EPA and published in the Code of Federal Regulations. Tolerance is the highest legal amount of a pesticide allowed to be present on a specific food. Acute and chronic exposure assessments were conducted and evaluated for a number of populations including the US general population and subpopulations based on age, gender, and ethnicity. Populations of specific concern were all infants, less than 1 year old as well as children aged 1-2 and females of childbearing age. In order to calculate the dietary exposure, data are needed for both residue and consumption. For residue data, national and state monitoring databases were used. The preferred database is the United State Department of Agriculture pesticide data program (PDP) It is the most comprehensive and statistically designed to provide data specifically for dietary risk assessment. PDP has analyzed a large number of samples, over 88,000 of which 10% were with detections. The next source of residue data was DPR's California Pesticide monitoring program. The program samples fresh fruits and vegetables and is focused on foods eaten by Californians. DPR provided over 1700 samples, 15% had detections. And the third database used was the Food and Drug Administration (FDA), which provided 4,200 samples, 5% had detections. Consumption data are provided by the Centers for Disease Control and Prevention (CDC) National Health and Nutrition Examination Survey (NHANES), which surveys the consumption of foods for over 60,000 people including Californians. The dataset used is from 2005 and 2010. The exposure is calculated using a computational model called DEEM-FCID v. 4.02.

A highly refine probabilistic dietary assessment was conducted for imidacloprid. A total of 478 food forms were included in the analysis, of which 208 were represented by residue distribution. This is the refining step that makes the assessment more realistic because it utilizes all available residues that were detected by the monitoring programs and combines them with consumption rates of real people. Distribution of exposures are calculated capturing from the lowest to the highest exposure to people. A total of 270 food forms did not have sufficient data to conduct distributions. In that case, a single residue value was used and this is usually the highest detected level. Residues were refined by applying percent of the crop treated adjustments that factors in the probability that not all crop was treated with a pesticide. Residues were also adjusted for changes due to hydration or processing of foods. Exposures were calculated for both food and

drinking water and calculated in the 99.9th percentile, which means that the individuals at the highest end of the exposure were captured. Non-Hispanic other subpopulations were identified to have received the highest dietary exposure. Drinking water, corn syrup in baby food, grape and artichoke were the main contributors of the dietary exposure of infants, children and women of childbearing age.

Risk Characterization is the next step in risk assessment where actual risks are calculated. The risk was calculated from single route exposure scenario and included oral (dietary and non-dietary), dermal, and inhalation exposures, as well as aggregate risks from multiple exposures. The next step combined dietary exposure to either occupational and non-occupational exposures to calculate aggregated risks. These risks were expressed as margins of exposure (MOE). MOE is calculated by dividing the critical POD by an estimate of a human exposure. An estimated MOE is then compared to a target MOE. The target MOE for imidacloprid was 100, and this was considered sufficient for protection of humans. The target of 100 is calculated by using two default uncertainty factors, one for interspecies extrapolation, based on the assumption that humans are ten-fold more sensitive than animals. The second uncertainty factor is ten-fold for intraspecies extrapolation this accounts for the variability in response among the human populations. If a calculated MOE is less than the target of 100, it indicates a risk to human health. The aggregate risk was calculated using the hazard index approach.

For non-agricultural occupational risk scenarios, out of nearly 100 exposure scenarios, 22 indicated exposures of concern. For occupational workers, 9 scenarios had MOEs below the target of 100. These included exposures to pesticide handlers and reentry workers. For non-occupational exposures, 13 were identified that were lower than the target of 100. These exposures were either for applicators of pet collars or for post application exposure from applying pet collars or from treated turf. The calculated MOEs were less than 100 for 12 of the 13 non-occupational scenarios. One scenario for post application exposure after applying pet collar by adults had a MOE of 104 (exceeding the target of 100). Although it did not indicate a risk, it was included because it became a risk after aggregating with the dietary exposure.

Dietary exposure alone was not found to pose a risk to human health. Aggregating dietary exposure with one non-occupational exposure scenario resulted in a risk. For all other occupational and non-occupational scenarios aggregating with dietary exposure did not increase risk to human health.

Conclusion: Risks of non-agricultural use of imidacloprid - Risk to workers were largely for professional handlers. Use of consumer products and landscape treatments resulted in risks to adults from pet products and children from pet products and treated lawns. Dietary and drinking water did not contribute to the overall risk except for one non-occupational scenario.

Imidacloprid is a widely used and extensively studied pesticide, DPR's comprehensive human health risk assessment required rigorous review of an enormous database. It was important to examine the strengths but also the uncertainties of the data used, and the decisions made from the data with the critical endpoints and exposure estimates that went into risk calculations. The

documents are currently undergoing scientific peer review, with comments expected to be received in a couple of weeks. Once the comments are received and any associated new data, the systematic review will be updated, and the final documents will be compiled. Once the final documents are compiled, they will be released to the public according to the provisions of AB 363 in January 2025.

Committee Comment

Garret Keating commented great presentation and comprehensive risk assessment. With a lot of routes of exposure and given the developmental endpoint, shouldn't there be a sensitivity factor in the MOE calculation? You have intraspecies, am I missing something or is that accounted for somewhere else? And women of childbearing age could fall into the occupational and non-occupational, is that called out during exposure scenarios a special case or not? Shelley DuTeaux responded first to the question about women of childbearing years and if they are accounted for in occupational exposures and absolutely, they are the ones that are of concern in professional handler license applicator scenarios.

Svetlana Koshlukova responded to the question of the MOE calculations and uncertainty factor. If the endpoint is based on a specific effect in the developing organism, then we do not have to apply another uncertainty factor of ten for developmental neurotoxicity. This would have been the case if we established an endpoint in adult animals and then with having little information but just suggestions for developmental effect then we would apply a 10x or more uncertainty factor to account for developmental neurotoxicity.

Matt Hengel thanked Shelley DuTeaux and Svetlana Koshlukova for the high-volume work. Matt asked "Do you know if in the PDP database it was imidacloprid as parent or if that was total imidacloprid including a number of its known metabolites? Svetlana answered the tolerances are established for imidacloprid as well as its degradates and metabolites that contain the six chloronicotinic acid. There are a lot of imidacloprid generates and a large number of metabolites that are covered in tolerances. The residue data were for imidacloprid total, and specific data were available for 2 of the metabolites. The data showed that the detections were lower than the total, so we did not use the individual metabolite residues.

Public Comment

No comments from the public.

3. Neonicotinoid Reevaluation Update – Taylor Whitehill, DPR

Starting with the history of the previous reevaluation, in February 2009 DPR initiated a reevaluation for certain products within the nitroguanidine insecticide class of neonicotinoids and containing the active ingredients imidacloprid, clothianidin, dinotefuran, and thiamethoxam.

In July of 2018, DPR issued the Neonicotinoid Risk Determination regarding production agricultural applications. On January 1st, 2024 the neonicotinoid pesticide exposure protection regulations went into effect. More information on the regulations can be found on the [DPR website](https://cdpr.ca.gov/docs/legbills/rulepks/22-001/22-001.htm) <cdpr.ca.gov/docs/legbills/rulepks/22-001/22-001.htm>. DPR also created and distributed fliers with [Information for Growers and Applicators](https://cdpr.ca.gov/docs/enforce/neonicotinoid/neonicotinoid_regulations.htm) <cdpr.ca.gov/docs/enforce/neonicotinoid/neonicotinoid_regulations.htm> for each of the effected crop groups. The regulations are specific to agricultural applications and each of the different crop groups have their own restrictions and directions associated with them.

On March 7, 2024 DPR issued [California Notice 2024-04](https://cdpr.ca.gov/docs/registration/canot/2024/ca2024-04.pdf) <cdpr.ca.gov/docs/registration/canot/2024/ca2024-04.pdf> concluding the reevaluation of chemicals in the nitroguanidine insecticide class of neonicotinoid pesticides. Letter were sent out to registrants informing them of the closure of the reevaluation.

On March 7, 2024, DPR also issued [California Notice 2024-05](https://cdpr.ca.gov/docs/registration/canot/2024/ca2024-05.pdf) <cdpr.ca.gov/docs/registration/canot/2024/ca2024-05.pdf> initiating a new reevaluation on neonicotinoid products intended for Non-Agricultural use on non-production outdoor ornamental plants, trees or turf. This reevaluation is required by Assembly Bill 363. Products included in the previous reevaluation are not excluded from the new reevaluation. Products are included if they contain the active ingredients imidacloprid, clothianidin, dinotefuran, thiamethoxam, or acetamiprid and contain claims that are relevant to the new reevaluation.

Effective January 1, 2024 Assembly Bill 363 amended FAC section 12838. The law requires DPR to evaluate potential impacts of the neonicotinoid pesticides used on nonproduction outdoor ornamental plants, trees, or turf on pollinating insects, aquatic organisms, and human health taking into account all relevant routes of exposures. A [list of the 146 products](https://cdpr.ca.gov/docs/registration/reevaluation/non_ag_neonicotinoid_products.pdf) <cdpr.ca.gov/docs/registration/reevaluation/non_ag_neonicotinoid_products.pdf> that will be included in the reevaluation can be found in the reevaluation section of the DPR website. Letters were also sent out to registrants informing them of the reevaluation and listing the registered products associated with the company that will be included in the reevaluation.

At this time, DPR has not requested data from registrants to support the reevaluation. The evaluators are reviewing data on file, including the data that was submitted for the previous reevaluation, and are determining whether or not additional data will be needed. DPR may request additional data in the future.

[California Notice 2018-01](https://cdpr.ca.gov/docs/registration/canot/2018/ca2018-01.pdf) <cdpr.ca.gov/docs/registration/canot/2018/ca2018-01.pdf> informs registrants that DPR will not process any new products or amendments that expand the use of an active ingredient relevant to the concern that prompted the reevaluation. DPR will not be able to move forward with new registrations that include claims on non-production, outdoor ornamental plants, trees, or turf. DPR will also not be able to move forward with any amendments that add those claims to the label or increase the application rates of uses relevant to the reevaluation All effected registrants have been contacted and have responded to DPR, confirming contact information and receipt of the notice.

Committee Comment

No comments from the committee.

Public Comment

First question in the Q&A box, since non-agricultural products will be restricted, what is the purpose of continuing to reevaluate them? Taylor Whitehill responded that right now AB 363 amends FAC section 12838 says that professional users can continue to use the products. That is part of the reason why DPR are continuing to reevaluate. Homeowners will not be able to continue to use the products after January 1, 2025

James Nakashima asked is the new reevaluation also related to pollinator protection? Taylor Whitehill responded that yes, it is related to pollinator protection, but also related to aquatic organisms and human health.

Zenna Scarlet asked “Does the expansion restriction apply to any new SLNs? The response from Taylor Whitehill “Yes, SLN’s are subject to the reevaluation and to California Notice 2018-01. If a registrant was to apply to register a SLN that includes relevant to the reevaluation, it would be considered an expanded use. The Department of Pesticide Regulation would not be able to process the submission until the reevaluation has concluded.

Another question from the Q&A box was what goes into the reevaluation? What sort of process does the reevaluation entail? Taylor responded that the reevaluation basically is going through all of the data that DPR has currently to determine if there are any danger to aquatic organisms or human health or to pollinating insects. DPR may request additional data from registrants if needed to make a determination.

4. 1,3-Dichloropropene Use Tracking Website Launch Overview – Jazmin Johnson, DPR

Overview of the recently launched 1,3-Dichloropropene (1,3-D) use tracking site. Earlier this year, DPR 1,3-D bystander regulation went into effect which changed the California Code of Regulations in title 3 section 6626. The changes included a requirement for DPR to post an expedited pesticide use summary for 1,3-D. DPR is required to post a summary of 1,3-D use by county, township, and month, crop and fumigation method on a quarterly basis. DPR has released the first quarterly summary in April 2024. In the release, the data includes preliminary records from January through March and includes records submitted to DPR as Pesticide Use Reporting Database as of April 11, 2024. Note, it can take up to a month for pesticide use records to be sent from the county to DPR, so this may not include all the applications that have occurred in the first 3 months. The data is preliminary and subject to change based on additions per database.

DPR has launched an [interactive dashboard](http://cdpr.ca.gov/docs/emon/pubs/tac/tac_regs.htm) <cdpr.ca.gov/docs/emon/pubs/tac/tac_regs.htm > on its website. Tabs across the top of the dashboard correspond to a different summary. First tab shows general information, the next tab is the statewide 1,3-D records. The tab shows individual 1,3-D records beginning with January 2024 with details regarding the application date, county applied in, crop treated, number of acres treated, and amount of 1,3-D used in pounds. The fumigation code, also known as the fumigation method and location information for township and section are displayed as a reminder pesticide use data is reported using public land survey system where a township is an equivalent of an area 6 by 6 square miles, and a section is 1 by 1 square mile. The section is located within a township and there are 36 sections within the township. The section level data is the smallest resolution that shows where an application occurred. Users can sort the data by the columns, and filter by county, crop, and fumigation code. The number of records at the bottom of the screen will update based on any filters applied. The next tab is the monthly summary that shows the pounds of 1,3-D per month of application. The information is displayed in a table format and bar chart. The data displays county of application along with the month, and multiple months can be displayed. The county summary tab shows 1,3-D use by descending order, and the number of treated acres by county by descending order. The tab also has a donut chart displaying the distribution of 1,3-D pounds by crop and total percent of use, along with a table summarizing pounds of 1,3-D by fumigation code. Data can be filtered by one or multiple counties, once filtered the fumigation codes and crops used within the county will be displayed. On the crop summary tab, pounds of 1,3-D use is shown by fumigation method and crop. It has a similar display of a donut chart displaying use by crop with filtering options by one or multiple crops. The map tab has 2 interactive maps summarizing 1,3-D use by county. The first map on the left depicts county use, and the second map on the right shows the township level. Both maps show 1,3-D use in pounds. The maps have color displays, where blue indicates the amount of 1,3-D. A lighter color represents less use and darker color represents more use. Users can hover over any of the maps and they can select a county of interest and a pop up will display the county or township name and the amount of 1,3-D that was used. There are 3 filtering capabilities for crop, fumigation code, and month. When the filters are applied both of the maps will populate with the crop selected and used in each county. The maps are both interactive, and the data can be displayed in a data format by right clicking and selecting view data as a table.

For the township cap summary tab, there was a court order requesting DPR keep the longstanding township cap in place until the regulation that DPR and Office of Environmental Health Hazard Assessment (OEHHA) are working on to address occupational exposure to 1,3-D into effect. This ensures that DPR is complying with the court order and showing transparency of the tracking. The tracking shows a snapshot on where the township stands in terms of township cap. In a year a township is allowed 136,000 pounds of adjusted total pounds (ATP) and use is restricted from January through November. ATP is the total quantity of 1,3-D active ingredient applied during an application, multiplied by an Application Factor (AF). The AF is a numerical value set by DPR of the relative amount of 1,3-D potentially present in the air near treated fields based on geographic location, month, and application method. The table displays all the townships with 1,3-D use, pounds of 1,3-D used the adjusted total pounds for all application

within the township and the percent of township cap used. Percent of township cap is determined from the sum of ATP used on 136,000 and multiplied by 100. The township cap summary tab can be filtered by township ID.

DPR will update and release preliminary data every 3 months. The next update will include new data and corrections and additions that were added. The next update will have updates to quarter one and it will include all the data from January through June. By January 2025, there will be a full year of 2024 data posted online.

Highlights of data from January to March. 957,651 pounds of 1,3-D applied and 4,952 acres treated from January 1 to March 30, 2024. 252 applications of 1,3-D across 13 counties and 69 townships. The top 3 counties are Merced, Fresno, and Kern. Of the first three months in 2024, March had more 1,3-D use. It has been used on 23 different crops, top 3 being sweet potatoes, almonds, and grapes. 95% of 1,3-D were applied using the new lower emission fumigation methods (24 inch depth shank injection, 24 inch depth strip and Tarp/24 inch deep/broadcast). All 69 townships with 1,3-D use are well below the township cap limit. Sweet potato growers historically used method 1206 (18 in depth) but in quarter 1 data shows growers have adopted new lower emission methods.

Committee Comment

No comments from the committee.

Public Comment

Kevi Mace asked how DPR is treating the codes for uncultivated ag and rotational crops and if DPR is doing any sort of processing to figure out what those uses were for or if they are going straight in as uncultivated crops? Jazmin Johnson clarified what was meant by uncultivated crops. Kevi responded that uncultivated ag is a crop option on the PUR. Jazmin responded that as of this year DPR is working with the counties and various partners to get a crop for all records. So far all the counties have done a really good job on reporting what is being treated versus nonspecific answers such as soil application. With the current data there are very few that did not list the crop. And we are continuing to work with the counties to get all the specifics.

James Nakashima complimented Jazmin Johnson and the team for the new tool and presentation.

5. Stanislaus County Seasonal Study and Community Engagement – Aniela Burant, DPR

The Air Program recently completed a seasonal monitoring study for three fumigants in Stanislaus County. The goal of the presentation is to provide the committee and the public information on this seasonal study, and to provide an overview of the community engagement that the Air Program did in the initial stages of this study.

Community engagement can mean a lot of different things to a lot of different people. Community engagement is the process of building relationships and working and communicating with stakeholders for improved outcomes. It is necessary for the public to understand DPR processes and work and for the public to better understand how DPR protects the public, workers, and the environment.

The Air Program is responsible for assessing pesticide concentrations in air and mitigating adverse risks associated with pesticide applications. The Air Program monitors for pesticides in areas with high pesticide use and in areas that carry a high pollution burden. People who live in those high pesticide use areas and those areas also have a high pollution burden are particularly concerned with pesticide concentrations in the air. Therefore, the Air Program has increased our community engagement efforts in recent years. In addition, monitoring and data analysis work is intertwined with community engagement. The Air Program recently completed the monitoring for a seasonal study in Stanislaus County, a 15-week intensive study where sampling for 1,3-D, chloropicrin, methyl isothiocyanate (MITC) in the communities of Monterey Park Tract, Grayson, and Hughson. 1,3-D, chloropicrin, and MITC are fumigants, restricted materials and toxic air contaminants. For the 3 pesticides, the acute regulatory targets and the sub-chronic screening levels are compared to the data. The sub-chronic screening level duration for the fumigants of interest are examined and show a 13-week sub-chronic duration for both 1,3-D and chloropicrin. This means the study needs to be at least 13 weeks to compare study average concentrations to the sub-chronic screening levels for 1,3-D and chloropicrin. A 15-week study was decided on for the three pesticides in Stanislaus County.

We used historic pesticide use data to inform on when to monitor for fumigants of interest in Stanislaus County. We used an average of pesticide use reporting (PUR) data from 2019 to 2021, and the data is publicly available from the PUR database. Late winter and into spring were selected for the sampling study. This was based on consistently higher use of the pesticides of interest during the time period. Data from the 3 years showed that between February and May had the highest use, while there were some relatively high use in October and November of 1,3-D. Since the sampling would take place for 15 weeks, the calculated highest 15 weeks rolling average over 3 years was shown as February to May.

For the sampling process the following set up was used. At each sampling station a SKC AirChek Connect pump was set up with a different sorbent tube used for each fumigant. The pumps force air through these tubes and the tubes absorb the pesticide from the air. Sample integrity and quality control are essential parts of the sampling process. Flow rates are checked and verified at the beginning and end of each sampling event. Sorbent tubes are blocked from sunlight to prevent photodegradation of the samples. After the sampling event is completed, the samples are frozen to prevent sample degradation. There is stringent field data documentation including chain of custody documents.

In the planning stages of this study, we analyzed pesticide use including fumigant use data throughout California, and Stanislaus County ranked in the top ten for 1,3-D, MITC, and chloropicrin. In addition, the Air Program had previously built a relationship with the

community-based organization Valley Improvement Projects (VIP). VIP reached out to the program in 2022 because of pesticide use concerns in Grayson. Grayson was selected for the pilot notification system testing for the statewide notification system. VIP reached out for information on pesticide use in surrounding areas. This is the first multi community seasonal study that the team is performing in Stanislaus County, specifically in the communities of Grayson, Hughson, and Monterey Park Tract.

The Air Program reached out to both the Stanislaus County Agricultural Commissioner (CAC) and VIP. The Stanislaus CAC informed the Board of Supervisors and helped the Air program secure sampling sites. The Air program met with VIP and answered questions they had about the study. VIP suggested that interaction with the community members start in the beginning of the study, so community members were aware of what was going on with the study. VIP organized presentations in Monterey Park Tract, Grayson, and Hughson. DPR provided slides in English and Spanish and had an interpreter present. Many resources such as handouts were provided to the community members. Topics covered in the presentations included an introduction to DPR and DPR risk assessment, DPR's Air Program, an overview of the study, historical pesticide use in the area, information on how to report pesticide incidents, and what to do if exposed to a pesticide. The presentations were successful, and we received lots of great questions from the community members, and feedback on what DPR can do better. Feedback was provided in real time on the presentation, such as a few slides had the technical differences between DPR regulatory targets and screening levels, in real time feedback was given that the slides had too much jargon on them. The presentation was adjusted in real time and subsequent presentations were adjusted to better engage and explain how DPR works to the meeting attendees. There were a few slides on information on resources for seeking medical care if exposed to a pesticide, such as calling 911 and how to report pesticide incidents. The information helps with some of the most important aspects of DPR work, it helps keep community members safe and healthy and helps prevent future incidents. The public needed to understand that the resources were available to community members and show that the reports will be taken seriously. The CAC can be a huge asset since the county commissioners perform pesticide incident investigations. Linda Pinfold, the Stanislaus CAC was present at each presentation, which helped collaboration.

Sampling ended May 10th after sampling for 15 weeks, starting on January 29th, 2024. Results should be received all the results by summer 2024, and data analysis should be completed by Fall 2024. The report should be to the public by Spring 2025. Many thanks to the Air program staff – Kelly Heal and Jimmy Nguyen who were the study leads. And Kelly Heal, Alex Gomez, Jesse Ibarra, and Atac Tuli for getting all the equipment set up each site. They were able to set up a sampling site without direct connection to power, it all ran on solar and battery power. And thank you to Linda Pinfold and the sites which hosted the sampling, and VIP.

Committee Comment

No comments from the committee.

Public Comment

In the Q&A box, Anne Katten, asked if the seasonal study found any very high air levels can that information be released to the community before the final report? This would be similar to the way AMN data is posted as preliminary data. And thanked for a thoughtful presentation. Aniela Burant checked in with Minh Pham, who answered that the data is examined routinely. If anything is abnormal or high, it will be flagged.

Bianca Lopez commented that they look forward to seeing the results.

6. Agenda Items for Next Meeting

List any agenda items for next meeting requested by committee. Should be written out similar to committee comments with full name and a brief summary of the request.

The next meeting is scheduled for July 19, 2024 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/>

7. Adjourn