



**PESTICIDE REGISTRATION
AND EVALUATION COMMITTEE (PREC)
Meeting Minutes – January 21, 2022**

Committee Members/Alternates in Attendance:

Brian Gress – California Department of Food and Agriculture (CDFA)
Garrett Keating – Department of Industrial Relations (DIR)
Heather Williams – Department of Resources Recycling and Recovery (CalRecycle)
Jaime Rudd – Department of Fish and Wildlife (DFW)
Jeff Fowles – Department of Public Health (CDPH)
Katherine Sutherland-Ashley – Office of Environmental Health Hazard Assessment (OEHHA)
Matt Hengel – University of California (UC), Davis, IR-4 Program
Patti TenBrook – U.S. Environmental Protection Agency (EPA), Region 9
Rich Breuer – State Water Resources Control Board (SWRCB)
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

Ana Casanova
Andrea Spignesi
Andrew Rubin
Anne Katten– California Rural Legal Assistance Foundation
Atefeh Nik
Avi Alcala
Ben Sacher
Cameron Blackford- CSI (CA)
Carissa Ganapathy
Chunbo Zhang
Dan Raichel
Effie Toren - BASF
Eric Lauritzen
Gayatri Sankaran
Greg Loarie
Greg Mattern
James Nakashima – Office of Environmental Health Hazard Assessment (OEHHA)
Jane Sellen
Jayne Walz
Jing Tao – Office of Environmental Health Hazard Assessment (OEHHA)
John Bottorff
Kevi Mace – California Department of Food and Agriculture (CDFA)
Leanna Bosarge

Luke Roling – KP Public Affairs
Marcia Trostle
Michael Barber – SBM Life Science Corp
Michele Brunlinger
Michael Zeiss
Nan-Hung Hsieh
Nasser Dean – Bayer
Pedro Lima
Rebecca Baskins – KSC
Rekha Pasupuleti
Sean McGee
Seobin Moon – Sipcam Agro
Stacy Alamond
Stephanie Stark - Santa Barbara CAC
Suzanne Hume
Tim Joseph – Landis International
Zach Bagley – California Tomato Research Institute, Inc.

DPR Staff in Attendance:

Andrew Turcotte – Pesticide Registration Branch
Anson Main - Environmental Monitoring Branch
Aron Lindgren – Pesticide Registration Branch
Ann Schaffner - Worker Health & Safety Branch
Brenna McNabb – Pesticide Registration Branch
Brittanie Clendenin – Pesticide Registration Branch
Chris Stonum - Worker Health & Safety Branch
Denise Alder – Pesticide Registration Branch
Emma Colson - Worker Health & Safety Branch
Jennifer Teerlink - Environmental Monitoring Branch
Kara James – Pesticide Registration Branch
Minh Pham - Environmental Monitoring Branch

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

- a. Approximately eighty-nine (89) people attended the meeting.
- b. This week, DPR issued California Notice 2022-03, announcing the public hearing dates for DPR’s Pesticide Contamination Prevention Act (PCPA) review of imidacloprid. The public hearing will commence on Tuesday, March 22, 2022. Please direct all questions to PCPA@cdpr.ca.gov

2. Summary of Pesticide-Treated Seeds Workshop - Anson Main, DPR

The Pesticide-Treated Seeds Workshop was held on November 15, 2021. The workshop was aimed to share information on pesticide-treated seeds, review the current regulatory framework surrounding seed treatment products, and characterize potential for off-site movement of seed coatings into the environment. The public comment period is open and information on current use and potential impacts of pesticide-treated seeds will be gathered until February 15, 2022. Public comments and responses to detailed questions can be submitted to TreatedSeeds@cdpr.ca.gov. The workshop recording, workshop slides, and detailed questions for stakeholders can be found on the California Department of Pesticide Regulation (CDPR) Web site under the [Surface Water Protection Program](https://www.cdpr.ca.gov/docs/emon/surfwtr/pest_seeds.htm) <[cdpr.ca.gov/docs/emon/surfwtr/pest_seeds.htm](https://www.cdpr.ca.gov/docs/emon/surfwtr/pest_seeds.htm)>.

Seed treatment products are applied to seeds to introduce pest protection at the time of planting and there are many active ingredients used on pesticide treated seeds. Neonicotinoid treated seeds are most often discussed and receive the bulk of scientific research though numerous fungicides, insecticides, and bactericides can be applied to pesticide treated seeds.

Pesticide-treated seeds are used for localized plant protection to protect against soil and aboveground pests. Systemic active ingredients are able to absorb into the plant and distribute throughout the plant tissues. Neonicotinoids tend to be xylem mobile where the active ingredient moves into the shoots, leaves, and tips of the plant as it's growing. The majority of the pesticide-treated seed environmental fate research has been conducted on neonicotinoids in row cropping areas in the Midwestern United States where the mode of application may only be via seed treatment rather than foliar or soil application.

A seed treatment product is a pesticide that is registered at both the federal and state level to coat treated seeds. Once the seed is coated with a product, then that seed is then referred to as a pesticide treated seed and ultimately this is what is introduced into the environment.

Pesticide treated seeds and seed treatment products applied to seeds are governed by different regulations, both federally and in California. Seed treatment products are registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) at the federal level with the U.S. Environmental Protection Agency (U.S. EPA), and at the Department of Pesticide Regulation (DPR) it is registered under FIFRA and the California Food and Agricultural code (FAC). Although seed treatment products are registered at both levels, pesticide treated seeds are not registered at either the federal or state level. At the federal level, pesticide-treated seeds are exempt from registration as a "treated article" as they do not fall under the state definition of a "pesticide".

The Treated Article Exemption is an exemption for pesticides of a character not requiring FIFRA regulation such as an article or substance treated with, or containing, a pesticide to protect the article or substance itself, if the pesticide is registered for such use. For example, paint treated with a pesticide to protect the paint coating, or wood products treated to protect the wood against insect or fungus infestation. If the paint label is making pesticidal claims beyond protecting the paint itself then it would need to be registered as a pesticide.

In reference to Dave Goulson's Nature paper, this figure shows the percentages reflected with neonicotinoid seed treatments, specifically. The figure demonstrates that when the target crop is planted, approximately five percent is retained in the crop, approximately one percent could be lost in dust and the remaining active ingredient then moves into the soil and soil water where it can move into surface water, groundwater and non-target vegetation such as field margin plants.

One of the questions being asked by DPR is what the contribution of pesticide-treated seeds is to surface waters. Environmental Monitoring is using pesticide use reporting (PUR) data to understand the relative contribution from different application types; however, we do not know the contribution from pesticide-treated seeds. There are many tools to understand the relative contribution of pesticides from different sources. Surface water concentrations can be attributed to either foliar or soil contribution because it's reported in the PUR because there is a better understanding of both the application and site of application. Because treated seeds are unreported, it's difficult to attribute what those pesticide contributions may be in the surface water environment.

What California commodities currently use seed treatments and with which active ingredients? What mass of AI is introduced to the environment through planting pesticide-treated seeds in California? Within the United States there have been numerous studies in the Midwest in terms of evaluating seed treatments with corn, soybeans, and cereals, which are almost exclusively grown with pesticide-treated seeds. Some research coming from the southern high plains of Texas is also looking at cotton grown from pesticide-treated seeds. There is a different condition in California where there are up to 400 different commodities that are grown in the state and few studies that look into pesticide-treated seeds in this region.

Working with the California Department of Food and Agriculture (CDFA), DPR obtained seed inspection data from 2010-2021 which serves as a qualitative inspection to determine accuracy of labels, claims that may be made on germination, but there is no chemical testing performed. Are pesticide-treated seeds planted in CA coated with seed treatment products registered in CA? Based on the CDFA seed inspection data, the majority of seed treatment products are not registered in the state of California. However, some seed treatment products that were coming into California were registered to be used in the United States, outside of California. Of the individual 48 products that were documented, there were 21 specifically registered in California, 16 registered to the federal U.S. EPA level but not for use in California, seven registrations not found specifically for seed treatments, and four cancelled at the U.S. EPA level. There are currently 210 products registered by California that would be categorized as a seed treatment product and 629 registered by the U.S. EPA. There are 68 different active ingredients registered for use in seed treatments and many seed treatment products contain more than one active ingredient.

The public comment period is open and information on current use and potential impacts of pesticide-treated seeds will be gathered until February 15, 2022. Public comments and responses to detailed questions can be submitted to TreatedSeeds@cdpr.ca.gov. The workshop recording, workshop slides, and detailed questions for stakeholders can be found on the California

Department of Pesticide Regulation (CDPR) Web site under the Surface Water Protection Program <cdpr.ca.gov/docs/emon/surfwtr/pest_seeds.htm>. We are receiving public comments and responses to questions geared towards seeking information on labeling, the mechanism and location of seed treatments, crops and uses of pesticide treated seeds and environmental impacts specifically to California. We are seeking to understand the purposes of treated seed uses in the state and to obtain better data and studies for these products being used here.

Committee Comment

Rich Breuer stated that on the map, quite a bit of research has been done in the Midwest and not a lot in California. Are similar studies being looked at, not necessarily the same crop type but active ingredients and soil type in California? Anson Main answered that soil types for instance aren't being looked at specifically and some of the cropping data would be very similar with slightly different environmental or geographic conditions. One of the biggest conditions of interest, because California has different growing conditions in terms of multiple cropping seasons, is a big consideration but not soil types specifically. DPR is aware that there is similar research in the Midwest and DPR staff are trying to identify what comparable information is available.

Matt Hengel asked if there is a rough idea of mass loading differences if a certain active ingredient was sprayed over the top versus the amount of active ingredient that is being used in a seed treatment? Anson Main stated that that is something being looked into now because the pesticide seed treatments are not accounted for in the environment. For instance, the United States Geological Survey (USGS) Pesticide Synthesis project used to account for the seed treatments in terms of the mass that was being applied to the environment, however that is no longer the case. One thing DPR doesn't have a good estimation of is the differences in mass of pesticide-treated seeds and other application types. There have been some internal calculations looking at some regions. For example, looking at the [workshop slides](http://cdpr.ca.gov/docs/emon/surfwtr/pest_seeds/pest_seeds_slides.pdf) <cdpr.ca.gov/docs/emon/surfwtr/pest_seeds/pest_seeds_slides.pdf>, Surface Water staff calculated estimations of Monterey County lettuce production using different pesticide applications. This resulted in the most conservative estimate being applied to the environment as a seed treatment compared to what's existing in the PUR data.

Public Comment

John Bottorff asked if there are there plans to remove all treated article exemptions? If not, it needs to be. Anything treated with a potentially toxic chemical must be regulated. Anson Main replied that at this present time DPR is in the data gathering phase and cannot speak on this at the moment.

Mike Zeiss asked does DPR have enforcement authority over seeds treated with products not registered in CA? If so, are there plans to step up enforcement to address the issues shown by CDFA survey? Jennifer Teerlink added based on how the federal regulations are set up,

California does not have authority over treated seeds at this time because they are not considered pesticides under state law.

3. Air Monitoring of Workers During Loading and Application of Fumigants- Chris Stonum, DPR

The Worker Health and Safety branch is conducting a study monitoring the breathing-zone air of workers during loading and application of fumigants. This study came out of 2010 and 2012 U.S. Environmental Protection Agency (EPA) label changes. The study has two purposes, to fill data gaps and to ensure that these changes are protective of worker health.

The study monitors applications of the active ingredients (AI), chloropicrin, 1,3-Dichloropropene (1,3-D), metam potassium and metam sodium products. When metam potassium and metam sodium products are applied, the breakdown product methyl isothiocyanate (MITC) is being monitored. Pesticide Use Report (PUR) data was used to identify most commonly used application methods for each AI. The study samples an average of 5 to 6 methods per AI, capturing a total of 21 methods which accounted for 83% of total applications.

To secure field applications, we work with industry task forces as well as the County Agricultural Commission (CAC) offices. Industry task forces and CACs are used for their institutional knowledge regarding logistics of what methods are taking place in what parts of the state, at what time, to help prepare studies.

The goal is to collect 20 samples per worker activity per method for each AI. The study is looking to collect roughly three more methods per AI. Samples are collected using sorbent tubes attached to personal air sampling pumps. Every worker and application rig present at the application site are sampled in continual two-hour intervals for the duration of the application.

As of current, 416 total samples have been collected from 28 different fields across 8 counties. There were no samples taken between March 2020 and August 2021 due to COVID. Between August 2021 and October 2021, there were 4 applications monitored, one chloropicrin tarped shallow broadcast and three 1,3-D deep shank applications.

The preliminary data analysis calculated time weighted averages (TWAs) compared against the accepted exposure limits for each of the AIs. The TWA is the employee's average airborne exposure during a work shift. The AIs don't have the same occupational exposure limit, so the limits were used from several sources. The permissible exposure limit (PEL) of 0.1 ppm was used for chloropicrin, the threshold limit value (TLV) of 1.0 ppm was used for 1,3-D, and for MITC, both 0.220 ppm pulled from the Risk Characterization Document and 0.600 ppm which is the stop-work trigger value on the metam sodium and metam potassium labels were used.

For chloropicrin, worker activity and corresponding TWA in parts per million (ppm) was graphed to calculate the average and show the comparison with the occupational exposure limit (OEL) of 0.1 ppm.

Figure 1: Chloropicrin

Occupational Position	Time Weighted Average (ppm)
Driver	0.021
CoPilot	0.031
Irrigator	0.034
Drip Irrigator Applicator	0.007

For 1,3-D, worker activity and corresponding TWA in parts per million (ppm) was graphed to calculate the average and show the comparison with the threshold limit value (TLV) of 1.0 ppm.

Figure 2: 1,3-D

Occupational Position	Time Weighted Average (ppm)
Driver	0.107
CoPilot	0.071
Irrigator	0.035
Drip Irrigator Applicator	0.027
Shoveler	0.021
Soil Sealer	0.121
Background Air Sampler	0.002

For MITC, worker activity and corresponding TWA in parts per million (ppm) was graphed to calculate the average and show the comparison with the label value of 0.600 ppm.

Figure 3: MITC

Occupational Position	Time Weighted Average (ppm)
Monitor	0.001
Applicator	0.004

Study challenges include difficulty securing some applications due to short notice, dependency on environmental variables, and securing cooperators. Common methods change over time which creates a moving target. Seasonality of methods and applications also create a logistical challenge.

The branch is looking to improve logistics and coordinate with CACs and industry to capture more MITC applicators and wants to prioritize less common methods (which still account for the top 83% of applications). The branch will continue to work with growers and applicator cooperators, and update selected methods with more recent PUR data.

Committee Comment

Patti Tenbrook asked for clarification with regards to the time weighted averages (TWAs) and the two-hour window versus how long people are actually doing any given activity, for example an eight-hour work day and how that works together in the study. Patti also requested more information about reference levels for their permissible exposure limits (PEL) compared to other thresholds. Chris Stonum responded that though it was a two-hour sampling interval, sampling was continuous, the samples were changed at the end of the two hours. Most of the TWAs were calculated with a few different sampling intervals so there could be multiple sampling intervals within that datapoint. Emma Colson added that for the occupational exposure limit (OEL) for chloropicrin, it is lower level that the OELs have been compared to.

Garrett Keating confirmed the amount of samples with Chris Stonum to be 20 samples per task for each of the different selected activities for an average of five to six application methods per active ingredient. Chris added that currently there have only been two to three application methods collected and they are trying to obtain three more per active ingredient. Garrett asked, over the course of an 8-hour day, are you capturing time of day variability and any seasonality. Lastly, Garret asked if chloropicrin has an irritating effect and if there are any Short Term Exposure Limit (STEL) sampling. Chris answered that samples are taken first thing in the morning and sampling lasts until they are done for the day. Ann Schaffner replied that the workers are monitored in the field and if they are reporting irritation, it is documented. But the levels that we are seeing are not reaching the threshold to consider that.

Public Comment

John Bottorff stated you are working with Industry Task Forces, are you working with any farm worker organizations? They are the people most exposed. Ann Schaffner replied that work is being done with the following registrant task forces who are working directly with the applications: Metam task force, Chloropicrin task force, and Dow, and the registrant for 1, 3-D. Between those task forces and the counties, that is how fields and cooperators are secured for sampling.

Mike Ziess stated it was explained clearly why most sample applications were selected by industry task forces. Nonetheless, it seems likely that those particular applications carefully followed all label and regulatory requirements. Is there any data about what proportion of fumigant inspections by County Ag Commissioners find violations of fumigant use requirements? Chris Stonum stated that one good thing about monitoring the applications that are following the regulations closely is to get an idea of the effectiveness of the 2010 and 2012 mitigation measures and regulatory changes. Ann Schaffner added that we're ensuring that the regulations, label changes and also permit conditions that are already in place are actually continuing to protect workers. Knowing that information gives us a baseline and then we can see if additional concerns come up. Regarding any data from fumigant inspections, that's not something that has been looked into, but is something that could be considered.

John Bottorff asked how is chronic exposure being looked at? Workers would be exposed on regular basis. Chris Stonum replied that the permissible exposure limits (PELs) being compared is for chronic exposure. That is exactly what we are looking at and those are the occupational exposure level (OEL) values that they are being compared against.

Mike Ziess stated the highest flux of fumigant from treated fields is often several days after application. So, fieldworkers might potentially have higher exposure than handlers. Are there any plans to do similar monitoring for fieldworkers? Chris Stonum answered that yes, there are some plans to monitor some post application activity, specifically 1, 3-D. Logistically, it would be a challenge with this study to include fieldworkers, especially during the busy season, to go back or stick around that long. Ann Schaffner added that though the focus isn't on fieldworkers in this study, this could be part of a follow up study.

Anne Katten asked why is DPR looking at the average exposure level rather than 95% percentile or maximum level? There is a very wide range of exposures for many of these jobs and it is important to protect the maximally exposed. Chris Stonum stated this is a very preliminary analysis to get a ballpark idea and there will be a more in-depth data analysis.

Anne Katten followed up by asking, given that risk assessments have been completed for all these fumigants, why isn't DPR including the levels of concern established in the risk assessments in addition to any PELs available? I meant including comparison to LOC from risk assessments. Ann Schaffner answered that DPR is looking at what workers are actually exposed to, what is enforceable, and if there have been any exceedances for those. Next, it will be decided if there is any mitigation needed. Although, mentioned for chloropicrin and 1,3-D, DPR did include exposure limits for MITC because there isn't an occupational exposure limit.

John Bottorff asked if the plastic tarps used for the fumigations have been examined for residue and worker exposure. Chris Stonum answered that it is not part of this study and was not a factor looked at during this study.

Mike Zeiss asked if DPR has the resources needed to continue monitoring the newly-popular application methods? Is there adequate staff and money for sample analyses. Chris Stonum replied that there is adequate staff and personnel. PUR data review and discussions with the industry are frequent to ensure the most up to date application methods are being incorporated into the study. Ann Schaffner added the study is a moving target and is continually being monitored. Additional staff have been hired and DPR has the resources to do so.

Anne Katten asked regarding chronic exposure concerns, are any of these PELs looking at cancer risk for 1,3 D? Ann Schaffner responded they are looking at acute exposure typically rather than cancer risk. Emma Colson added with the TLV, at least the documentation behind that, has to be considered. The assumption for any of these occupational exposure limits is routine occupational exposure day after day for 40 hours a week for the typical worker without any adverse health

effects for the lifetime of work if they are below that level. For the actual cancer risk for any of these active ingredients that we are looking at, documentation would have to be reviewed.

James Nakashima asked if all the monitored applications were tarped or did today's results reflect both tarped and un-tarped applications? Chris Stonum answered that the results were both tarped and un-tarped for all active ingredients. James followed up to ask if closed cabs or open cabs were used. Chris answered that they were typically closed cabs.

4. Update on DPR's Neonicotinoid Reevaluation and Upcoming Mitigation – Brittanie Clendenin, DPR

This presentation will provide an update on the proposed rulemaking that will implement mitigation measures on the application of neonicotinoids in production agriculture settings. Back in 2020, the Department of Pesticide Regulation (DPR) released draft proposed mitigation measures for the protection of pollinators from neonicotinoids, held public webinars, and presented the proposed mitigation measures to the Pesticide Registration and Evaluation Committee (PREC). Today's presentation will be a high-level overview of the current version of proposed regulations, including changes made to the mitigation proposal since 2020.

Since the proposed rulemaking package has not yet been published, in-depth details will not be shared. The presentation will be high-level and is meant to orient you for the upcoming rulemaking proposal. Once the rulemaking period has officially started, more information and documents will be forthcoming and posted to DPR's website. With that being said, it also means that all questions may not be responded to or addressed.

DPR initiated the reevaluation in 2009, including the 4 nitroguanidine-substituted neonicotinoid active ingredients: clothianidin, dinotefuran, imidacloprid, and thiamethoxam. This reevaluation was initiated due to high levels of imidacloprid found in the leaves and blossoms of treated plants and possible adverse effects to honey bees. The reevaluation focused on outdoor agricultural uses of neonicotinoid products related to pollinator exposure. To inform the reevaluation team and evaluate risks to pollinators, DPR required neonicotinoid registrants to conduct comprehensive multi-year studies.

Between 2009 and 2016, DPR received numerous studies and reviewed an extensive amount of data to determine pollinator risks. DPR partnered with the U.S. Environmental Protection Agency (U.S. EPA) and The Health Canada Pest Management Regulatory Agency (PMRA) to issue collaborative preliminary assessments for each active ingredient in 2016 and 2017. Then in July 2018, DPR completed its Risk Determination with respect to the reevaluation. To incorporate newly received data, DPR issued an addendum to the determination in January 2019. From those documents, DPR determined that additional mitigation measures are needed to protect pollinators from the use of the neonicotinoids in agricultural crops. In 2020, DPR developed a draft of proposed mitigation measures to address the identified risks.

DPR's scientific foundation of risk determination is based on two types of studies. The first study is a colony feeding study in which honey bee hives are fed contaminated sources of pollen and nectar at different concentrations. This study monitors the colonies health as the concentrations of neonics increase over time. The goal of the study is to determine a NOEC – No observed effects concentration. The studies provide a toxicity bench mark where any concentration above the NOEC indicates a risk to bee colony health. Anything below the NOEC is considered safe. These NOECs were established separately for pollen and nectar and for each of the active ingredients. The second study is a study on crop residue. These are field based studies in which a neonic is applied to a specific crop. The neonic is applied at the highest application rate and at a typical application time. Then once the crop is in bloom, nectar and pollen are sampled from the flowers. Those samples are then analyzed to determine the levels of neonic residues. Residues values from these studies give insight into the levels a bee would potentially be exposed to in the field.

With these two types of studies, the residue values can be compared to the respective NOEC. If the residues are above the NOEC, the application is designated as high risk to bees. If the residues are below the NOEC then the application is designated as low risk.

More information about the scientific foundation can be found in DPR's [CA Neonicotinoid Risk Determination](#)

<cdpr.ca.gov/docs/registration/reevaluation/chemicals/neonicotinoid_risk_determination.pdf> and [subsequent Addendum](#)

<cdpr.ca.gov/docs/registration/reevaluation/chemicals/addendum_neonicotinoid_risk_determination.pdf>.

The results of the studies varied. DPR found both high-risk and low-risk applications. Risk is dependent on many different factors including the crop, application rate and timing, application method, and the active ingredient. Through the risk determination process, DPR found that a one-size fits all approach to mitigation would not be feasible. Therefore, DPR is proposing mitigation measures through crop-specific regulations.

The proposed regulations address soil and foliar applications of neonicotinoids in the production of agricultural food and feed commodities (e.g., fruits, vegetables, cereal grains, oilseed). The regulations are organized by crop group and each section includes: General Restrictions that apply across all crop groups (such as a bloom prohibition,) and specific application and timing restrictions based on residue data for that crop group.

The proposed mitigation is multi-tiered by crop group attractiveness to bees & harvesting practices. The multi-tier mitigation approach relies on U.S. Department of Agriculture (USDA) research. [USDA's 2018 report entitled, "Attractiveness of Agricultural Crops to Pollinating Bees for the Collection of Nectar and/or Pollen"](#)

<usda.gov/sites/default/files/documents/Attractiveness-of-Agriculture-Crops-to-Pollinating-Bees-Report-FINAL-Web-Version-Jan-3-2018.pdf> indicating the relative attractiveness of each crop to pollinators. DPR applied that report information to an entire crop group. For example,

DPR determined citrus to be a highly attractive crop group. Based on the attractiveness of the crop group, DPR proposed different strategies for mitigation. Crop groups that are highly attractive to bees will always be looked at first to feed, and thus will represent a larger portion of a bee's diet. For highly attractive crop groups there will be both general restrictions and crop specific rate and timing restrictions. Next, the crop groups that are moderately attractive to bees are a relatively less attractive food source and may only be attractive under certain conditions, such as when other food sources are unavailable. Thus, these crops are not expected to provide a significant portion of the bees' diet when other food sources are available. For moderately attractive crop groups, the general restrictions are always applicable. However, the rate and timing restrictions only applies when managed pollinators are brought into the field for pollination services. DPR also proposes exemptions from the proposed regulations for crops that are not attractive to bees or crops that are harvested before bloom. So this is what the multi-level mitigation approach looks like and it offers higher levels of restriction when crops are expected to provide a large portion of the bees' diet, and lower levels of restriction when crops are not expected to provide a significant portion of the bees' diet.

Through the development of the mitigation measures, DPR strived to collaborate with stakeholders and other agencies where possible. DPR released a draft of the proposed mitigation measures and held a series of webinars in August 2020 to initiate public feedback. During the comment period DPR received over 9,000 public comments. Staff spent a majority of 2021, reviewing the public comments and making adjustments to the draft regulations, where appropriate.

As DPR moves closer to initiating the rulemaking process, there are 5 main areas of changes in the current proposal as compared to the 2020 proposal worth noting. The first change is a restructured layout. All restrictions are now found under each crop group section and the proposed regulation no longer has a general application restriction section that applies to all crops. Secondly, there will be updated rates and timings for certain uses in the following crop groups based on further evaluation of colony feeding and crop residue studies for Citrus, Grapes, Cereal Grains, Cucurbits, Fruiting Vegetables, Legumes, Oilseed, Pome Fruit, Root and Tuber Vegetable crop groups. Another is updated exemption language for applications to control quarantine pests and applications to address emergency situations. Additionally, an added exemption for applications made to an agricultural commodity grown inside an enclosed space (greenhouses), insect exclusionary structure, or insect exclusionary netting. Lastly, applications are no longer limited to a single chemical/application method in a year. This restriction has been replaced with total application rate caps for all four neonic active ingredients.

Currently, DPR is working to finalize rulemaking documents and anticipates noticing the proposed regulations in February. Once the official rulemaking period is initiated, the comment period commences and a public hearing will be held. The proposed regulation text, several rulemaking documents, and additional materials will be available to the public. DPR estimates implementation of the proposed regulations will take place in 2023. If you are interested in keeping up to date with the neonicotinoid reevaluation and rulemaking process, please subscribe

to both the California Notice to Stakeholders electronic mailing list and the Notices of proposed Regulatory Action electronic mailing list found on [DPR's listserv web page](mailto:cdpr.ca.gov/docs/dept/listserv/listdesc.htm) <cdpr.ca.gov/docs/dept/listserv/listdesc.htm>.

Committee Comment

Jaime Rudd asked when the department mentions bees and pollinators are there any other pollinators or bee species that you are looking into other than non-native, agricultural honey bees? Brittanie Clendenin responded that DPR, in this risk assessment and reevaluation, is relying on honey bee toxicity studies and using the latest studies and risk assessment practices. Honey bees are being used as a surrogate to propose regulations.

Matt Hengel asked how would DPR go about balancing the use of neonics on, for example, citrus with citrus greening? How would we balance the need to control that and protect the industry using something such as neonic, which we know is much less toxic in terms of the other compounds used as its replacement? Brittanie Clendenin answered that in the proposed regulation contains exemption language to allow for applications to continue to occur when invasive pests are being treated in California.

Public Comment

Mike Zeiss questioned why were ornamental-plant nurseries not included? Like food and fiber, nurseries are classified as production agriculture? Mike clarified, of course, it is understood that managed bee hives are not routinely placed in ornamental nurseries. Nonetheless, isn't it true that flowering ornamental plants can be important food sources for bees? Brittanie Clendenin stated that ornamentals are not included in the proposed mitigation. At this time, DPR does not have data to support determination outside of food and agricultural commodities. Thus, regulations have been proposed to address food and feed in agricultural production.

John Bottorff asked why was indoor use not part of the reevaluation? Brittanie Clendenin answered that the reevaluation is a specific to risk to honey bees. In the beginning of the reevaluation an assessment was made that the focus would be on outdoor uses because that's where risks to pollinators and bees were expected to occur.

John Bottorff also asked how were neonic impacts on wild bees and other pollinators like the monarch butterfly evaluated? Brittanie reiterated that the reevaluation and risk determination is relying on the latest honey bee toxicity studies and risk assessment practices. DPR is using honey bees as a surrogate to propose regulations that will protect pollinators. John added Neonics are systemic pesticides and are commonly used in treated seeds, so aren't bees and other pollinators exposed to neonics all the time? Wouldn't the best strategy to protect pollinators be to stop the use of neonics? Brittanie stated that neonics are systemic and are evaluated in that manor. DPR evaluates neonics when they are applied, watching the systemic residues, and then sampling during bloom, which is when honey bees are expected to receive exposure. It has been found that

some applications can be made and have low residues during bloom so they are safe for pollinators while others had high residues and were not safe. DPR has put together a multi-tier mitigation approach and regulations that can continue to allow this important tool of neonics to be used where appropriate when low risks are present.

Lastly, John asked were there any groups consulted other than the Ag industry? Brittanie stated that there were a lot of meetings with Agricultural industries, pesticide registrants, County Agricultural Commissioners, California Agricultural Commissioners and Sealers Association (CACASA), and specific commodity groups. Denis Alder added that DPR met with the nursery industry as well as some of the bee keepers. Tulio Macedo also added that DPR worked closely with the California Department of Food and Agriculture (CDFA) and the U.S. Environmental Protection Agency (U.S. EPA). John Bottorff stated that there should not be any exemptions. Neonics, like all pesticides, get into the water, air, and soil and pollinators will be exposed regardless if it's sprayed inside netting.

Mike Zeiss requested in general terms, how would California's proposed rulemaking compare to other U.S. states and would California have the strongest protections, or would some other states be even stronger? Brittanie Clendenin answered that a comment cannot be made at this time regarding that rulemaking. Though California is completing this risk assessment just for pollinators, the U.S. Environmental Protection Agency (U.S. EPA) is doing a broader scope evaluation and propose restrictions beyond pollinators making it hard to compare.

Michael Barber at SBM Life Science asked how would this mitigation affect neonics for residential gardening? Brittanie Clendenin stated the scope of mitigation is for agricultural production so applications for residential gardening do not fall within the scope of the proposed regulations.

John Bottorff identified DPR's mission, "Our mission is to protect human health and the environment by regulating pesticide sales and use and by fostering reduced-risk pest management" and seems the focus is "protecting the industry". Use of neonics is devastating pollinators, why isn't DPR looking at the impacts of pollinator extinction? Neonics are linked to a number of human health problems. DPR must do an evaluation of the social of neonics not just the "impact to industry". Brittanie Clendenin restated that the risk assessment was focused on pollinators so the U.S. Environmental Protection Agency (U.S. EPA) may look at other factors and DPR is working on other areas to address neonics with pollinators but this proposal is specific to pollinator mitigation. Again, it was evaluated to determine when applications are going to be safe or be a risk to bees and propose mitigation measures appropriately to when applications are deemed safe or not. DPR invites you submit comments on the proposed mitigation has been released during the commenting period. Denise Alder added that neonicotinoids are very important to growers and why California is still able to have its' citrus industry. While it is an important balance of pesticide use by our growers and effects to the wildlife, it is an all-inclusive approach to saving both the industry and protecting wildlife.

Dan Raichel stated that though the ornamentals are not in the scope of the current proposal on the agricultural production side and also on the non-agricultural, residential side but does DPR plan to address those in the future for either one? Brittanie Clendenin answered that DPR is currently focused on the agricultural commodities since that is the largest use with the highest applications. Tulio Macedo added that the department is considering that and once the department has finalized the main goal of this evaluation and if needed, will consider expanding to a different scope. At this time, the main goal is to address the scope of this current evaluation.

Tammy Qualls asked were urban uses of neonics considered? Brittanie Clendenin responded that urban uses were considered however the mitigation is for agricultural production for food and feed commodities.

Beau Howard stated with regards to the updates and changes to the proposed restrictions, will buffer zones be considered? Many growers produce their crops in scenarios where managed hives are not in the surrounding area. If a grower can demonstrate that managed hives are x miles away, especially from a crop that has low and moderate attractiveness, can this circumvent proposed restrictions? This would require good communication and cooperation between beekeepers and the farming community. Brittanie Clendenin replied that buffer zones are not a consideration at this time though neonics are systemic so applying to a crop at any time could lead to residues. Denise Alder added while buffer zones might be a consideration, setting up a buffer zone may not address the issue and that is why DPR is proposing crop specific regulations.

John Bottorff stated so DPR did not meet with any group or organization outside those with financial interest in the use of neonics. Did DPR reach out to groups like Beyond Pesticides, Pesticide Action Network, Center for Biological Diversity, or Californians for Pesticide Reform? Brittanie Clendenin responded that there have been meetings with some of those groups. Although, if meeting were not held with one of those groups, there was a comment period held in 2020 and comments were received from all of those groups mentioned. DPR spent a year evaluating and implementing change based on those comments.

An attendee asked in the studies, was a long term effect on the beehives considered. Denise Alder answered that both acute and chronic health effect to beehives in the risk determination document.

John Bottorff stated there are organic citrus growers who aren't using neonics. So there are other, safe methods.

5. Agenda Items for Next Meeting

The next meeting is scheduled for March 18, 2022 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