Date of Hearing: July 30, 2020

ASSEMBLY COMMITTEE ON ENVIRONMENTAL SAFETY AND TOXIC MATERIALS
Bill Quirk, Chair
SB 86 (Durazo) – As Amended July 27, 2020

SENATE VOTE: 38-0

SUBJECT: Department of Pesticide Regulation: chlorpyrifos: quarterly reports

SUMMARY: Requires the Department of Pesticide Regulation (DPR) to submit a quarterly report, as specified, on the use of the pesticide, chlorpyrifos, in granular form. Specifically, **this bill**:

1) Makes legislative findings about the hazards posed by exposure to chlorpyrifos and about the process California has taken to regulate and monitor the pesticide.

2) Requires DPR, beginning with the first quarter of 2021, to prepare and submit quarterly reports, due sixty days after the end of each quarter, to the Senate Committee on Health, the Senate Committee on Labor, Public Employment and Retirement, the Senate Committee on Environmental Quality, the Assembly Committee on Health, the Assembly Committee on Labor and Employment, the Assembly Committee on Environmental Safety and Toxic Materials, and the Office of the Surgeon General.

3) Requires that the report provide all of the following information:

    a) The amount of chlorpyrifos in granular form used during the quarter, reported in pounds and by location of use;

    b) Potential reasons for any increase or decrease in the use of chlorpyrifos in granular form in the quarter as compared to the same quarter of the previous year; and,

    c) A description of how DPR monitors exposure to the use of chlorpyrifos in granular form with a particular emphasis on dermal and inhalation exposure, and any information relating to that exposure during the quarter.

EXISTING LAW:

1) Regulates the use of pesticides and authorizes the director of DPR (director) to adopt regulations to govern the possession, sale, or use of specified pesticides, as prescribed. (Food and Agriculture Code (FAC) §11501, et. seq)

2) Requires the director to endeavor to eliminate from use in the state any pesticide that endangers the agricultural or nonagricultural environment, is not beneficial for the purposes for which it is sold, or is misrepresented. (FAC § 12824)

3) Authorizes, the director, after a hearing, to cancel the registration of, or refuse to register, any pesticide that fulfills these, among other, criteria:
    a) That has demonstrated serious uncontrollable adverse effects either within or outside the agricultural environment;

b) The use of which is of less public value or greater detriment to the environment than the benefit received by its use;
c) For which there is a reasonable, effective, and practicable alternate material or procedure that is demonstrably less destructive to the environment; or,
d) That, when properly used, is detrimental to vegetation, except weeds, to domestic animals, or to the public health and safety. (FAC § 12825)

4) Requires DPR to designate, control and regulate restricted materials found to meet specified criteria, including, but not limited to, danger of impairment to public health, hazard to applicators and farmworkers, and hazard to the environment. Authorizes DPR to adopt regulations that prohibit the use or possession of a restricted material that he or she finds and determines is injurious to the environment or to any person, animal, crop, or other property. (FAC § 14001, et. seq)

5) Requires that, except as may be provided in regulations adopted by the director, a pesticide use report (PUR) be submitted to the county agricultural commissioner within seven days after each use of a restricted material. (FAC § 14011.5)

6) Requires each county agricultural commissioner to submit to the director a copy of each PUR received, and any other relevant information the director may require. Requires that copies of the reports from the county agricultural commissioner be rendered to the director within one calendar month after they are received. (FAC § 14012 (b))

7) Requires the director to summarize the contents of these PURs quarterly as to the type of material and amounts, and requires the summaries to be made a public record. Authorizes the director to publish or distribute the summaries. (FAC § 14012 (b))

8) Defines a Toxic Air Contaminant (TAC) as an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health. (FAC § 14021)

9) Requires the director, in consultation with the Office of Health Hazard Assessment (OEHHA) and the State Air Resources Control Board (ARB), to evaluate, as specified, the health effects of pesticides that may be or are emitted into the ambient air of California and that may be determined to be a TAC that poses a present or potential threat to human health. (FAC § 14022)

10) Requires the director to determine, in consultation with OEHHA, the ARB, and the air pollution control districts or air quality management districts in the affected counties, the need for and appropriate degree of control measures for each pesticide listed as a TAC. (FAC § 14023 (e))

11) Requires, for pesticides determined to need control measures, the director, in consultation with the agricultural commissioners, air pollution control districts and air quality management districts in the affected counties, to develop control measures designed to reduce emissions sufficiently so that the source will not expose the public to the levels of exposure that may cause or contribute to significant adverse health effects. (FAC § 14024 (a))

12) Requires, if no demonstrable safe level or threshold of significant adverse health effects has been established by the director, the control measures to be designed to adequately prevent an endangerment of public health through the application of best practicable control techniques, which include, but are not limited to, the following:
    1) Label amendments;
    2) Applicator training;
    3) Restrictions on use patterns or locations;
    4) Changes in application procedures;
    5) Reclassification as a restricted material; and,
    6) Cancellation. (FAC § 14024 (a) – (b))

13) Requires the operator of the property which is producing an agricultural commodity to report the use of pesticides applied to the crop, commodity, or site to the agricultural commissioner of the county in which the pest control was performed by the 10th day of the month following the month in which the work was performed. (3 California Code of Regulations (CCR) 6626 (a))

14) Requires an agricultural pest control business to report the use of pesticides applied by it for the production of an agricultural commodity to the agricultural commissioner of the county in which the pest control was performed within seven days of completion of the pesticide application. (3 California Code of Regulations (CCR) 6626 (b))

FISCAL EFFECT: Unknown

COMMENTS:

Need for the bill: According to the author,

> "SB 86 would require DPR to submit quarterly reports to legislative committees that provide information on the amount of chlorpyrifos use in granular form and the department's plans for monitoring the use of chlorpyrifos in granular form. SB 86 protects the health of children and frontline communities from the brain-toxic pesticide chlorpyrifos.
>
> Chlorpyrifos in granular form consists of granules either coated or saturated with chlorpyrifos. Chlorpyrifos in granular form takes longer to break down in the environment than it takes to break down in liquid form. Chlorpyrifos in granular form may persist in the environment for as long as 180 days.
>
> Scientists from the U.S. EPA have determined that the handling of chlorpyrifos in granular form results in unsafe levels of exposure to farmworkers, even when farmworkers follow all of the directions on chlorpyrifos labels, wear personal protective equipment, and use engineering controls. California continues to allow use of granular pesticides containing chlorpyrifos, despite the substantial risk these products present to farmworkers, children, and mothers.
>
> DPR has one of the most comprehensive data gathering tools in the nation that includes data gathering at the local level and at the state level. Given the scientific evidence of the harm caused by chlorpyrifos, it is imperative that specific data on granular uses be incorporated

into the existing data gathering infrastructure and the information provided to the Legislature."

Chlorpyrifos uses: According to the United States Environmental Protection Agency (US EPA), chlorpyrifos is an organophosphate insecticide, acaricide, and miticide used primarily to control foliage and soil-borne insect pests on a variety of food and feed crops. Chlorpyrifos has been used as a pesticide since 1965 in both agricultural and non-agricultural areas. Nationwide, the largest agricultural market for chlorpyrifos in terms of total pounds of active ingredient is corn. It is also used on soybeans, fruit and nut trees, Brussels sprouts, cranberries, broccoli, and cauliflower, as well as other row crops. Non-agricultural uses include golf courses, turf, green houses, and on non-structural wood treatments such as utility poles and fence posts. Chlorpyrifos is also registered for use as a mosquito adulticide, and for use in roach and ant bait stations. Products are sold as liquids, granules, water dispersible granules, wettable powders, and water soluble packets, and may be applied by either ground or aerial equipment.

Chlorpyrifos concerns: Chlorpyrifos is an organophosphate that inhibits the functioning of the nervous system (acetylcholinesterase inhibition). This is how it kills insects. According to DPR, acute exposure can have similar effects on humans (sweating, salivation, vomiting, low blood pressure and heart rate, seizures, and death). DPR affirms that recent research has shown that chlorpyrifos is also a developmental neurotoxin in children and sensitive populations, and that the threshold for chlorpyrifos-induced neurodevelopmental effects is approximately 10-fold lower than the threshold for acetylcholinesterase inhibition. According to the American Academy of Pediatrics, California, "Chlorpyrifos is highly toxic, with demonstrated severe health effects far below current average exposure levels."

In 2015, DPR designated chlorpyrifos as a restricted material. Restricted materials are pesticides deemed to have a higher potential to cause harm to public health, farm workers, domestic animals, honeybees, the environment, wildlife, or other crops compared to other pesticides. Only trained, licensed professionals with a permit from a local county agricultural commissioner may use products containing a restricted material.

In 2017, OEHHA listed chlorpyrifos as a chemical known to cause developmental toxicity under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65), which requires the State of California to publish a list of chemicals known to cause cancer or reproductive toxicity (Health and Safety Code § 25249.8).

California's pesticide program: DPR is vested with the authority to regulate the registration, sale, and use of pesticides in California and has a mission of protecting public health and the environment. This authority is derived from several laws that cover all aspects of pesticide use in all media: air; ground and surface water; food; and, in agricultural, industrial, institutional, occupational and home-and-garden settings. Statutory regulatory authority allows DPR to regulate application rates; ensure pesticide efficacy; designate pesticides as restricted materials; develop criteria to prevent unacceptable pesticide residues in food and water; license applicators and dealers; and, adopt rules to protect workers and the public from overexposure. This full exercise of DPR's authority extends to the suspension or cancellation of a pesticide's registration. Cancellation prohibits use of a pesticide after an administrative adjudicatory hearing.

Chlorpyrifos as a Toxic Air Contaminant (TAC): DPR's TAC program is one of several regulatory options DPR can use to control exposure to potentially hazardous airborne pesticides. The Legislature created the statutory framework for the evaluation and control of chemicals as TACs with the enactment of California's Toxic Air Contaminant Act (AB 1807, Tanner, Chapter 1047, Statutes of 1983). The statute defines TACs as air pollutants that may cause or contribute to increases in serious illness or death, or that may pose a present or potential hazard to human health. DPR is responsible for the evaluation of pesticides as TACs.

In September 2018, following extensive scientific review and public comment, DPR proposed designating chlorpyrifos as a TAC, and on April 1, 2019, DPR finalized the listing of chlorpyrifos as a TAC.

DPR's cancellation of the registration of products containing chlorpyrifos: On May 8, 2019, the California Environmental Protection Agency (CalEPA) announced that DPR, "Is acting to prohibit the use of the pesticide and TAC chlorpyrifos in California by initiating cancellation of the pesticide." According to CalEPA, "The decision to prohibit chlorpyrifos follows mounting evidence, including recent findings by the state's independent Scientific Review Panel on [TACs], that the pesticide causes serious health effects in children and other sensitive populations at lower levels of exposure than previously understood. These effects include impaired brain and neurological development." CalEPA also announced at the time that the administration was convening a cross-sector working group to identify safer alternatives to avoid replacing chlorpyrifos with an equally harmful pesticide, and proposing the appropriation of $5.7 million in new funding in that year's state budget to support the transition to safer, more sustainable alternatives.

On August 14, 2019, DPR initiated cancellation proceedings regarding pesticide products containing the active ingredient chlorpyrifos and announced that chlorpyrifos product registrations will be made "inactive" on or before January 1, 2020. They announced, however, that the products are subject to existing stock provisions that allow for limited continued use and sale beyond that date.

On October 9, 2019, CalEPA announced that virtually all use of the pesticide chlorpyrifos in California will end in 2020 following an agreement between DPR and pesticide manufacturers to withdraw their products. The CalEPA announcement notes that under the settlement, the companies agreed that:

- All sales of chlorpyrifos products to growers in California will end on February 6, 2020;
- Growers will no longer be allowed to possess or use chlorpyrifos products in California after December 31, 2020; and,
- Until then, all uses must comply with existing restrictions, including a ban on aerial spraying, quarter-mile buffer zones and limiting use to crop-pest combinations that lack alternatives. DPR will support aggressive enforcement of these restrictions.

Chlorpyrifos in granular form: When CalEPA announced on October 9, 2019, that virtually all use of the pesticide chlorpyrifos in California will end in 2020, it also stated, "A few products that apply chlorpyrifos in granular form, representing less than one percent of agricultural use of chlorpyrifos, will be allowed to remain on the market. These products are not associated with detrimental health effects. DPR will continue to monitor for any exposures associated with these products."

While initially evaluating chlorpyrifos as a TAC, DPR evaluated inhalation and dermal exposure in the context of "bystanders." This evaluation did not find that chlorpyrifos in granular form offgassed or left a residue on food crops. DPR did not assess occupational exposure to granular chlorpyrifos during the TAC process. Because it is a restricted material, application of granular chlorpyrifos requires a permit from the county agricultural commissioner, a recommendation by a licensed pest control advisor, and supervision by a licensed certified applicator.

According to the author, "While the granular products may be used less frequently, they are not less dangerous for the farmworkers who are using them. In the 2016 Risk Assessment, US EPA assessed work scenarios involving granular formulations of chlorpyrifos, and found skin and inhalation exposures combined exceeded the level [US] EPA determined was safe for workers."

DPR provided the following data on the use of chlorpyrifos over the last five years in California (pounds per year applied).

Pounds of Chlorpyrifos Applied in CA per Year	2015	2016	2017	2018	2019*
All formulations	1,107,417	903,238	948,004	602,658	12,802
Granular formulations	14,121	14,315	12,861	11,966	6,589

* 2019 data has not been finalized and may contain errors.

DPR reports that on average from 2016-2018, about 550 applications to apply granular chlorpyrifos were submitted per year, as reported through the PUR. In 2019 about half that were submitted.

Pesticide use reports in California: According to DPR, California's pesticide use reporting program is recognized as the most comprehensive in the world. In 1990, California became the first state to require full reporting of agricultural pesticide use in response to demands for more realistic and comprehensive pesticide use data. Under the program, all agricultural pesticide use must be reported within seven days to county agricultural commissioners, who in turn report the data to DPR within one calendar month. Statute requires the director to summarize the contents of these PURs quarterly as to the type of material and amounts, and requires the summaries to be made a public record.

DPR currently makes PUR information available to the public through its California Pesticide Information Portal (CalPIP), which includes a comprehensive database of all pesticide use reports, and through the Pesticide Use Annual Summary Reports, which includes annual data summaries, indexed by chemical or by commodity. These summaries include analyses of pesticide use trends, including the use of organophosphate pesticides, and are available from 1989 to present. The summaries take about a year and a half to publish because, DPR indicates, they scrutinize the self-reported PUR data to verify its accuracy.

DPR's website states that, "DPR is currently reviewing CalPIP and the Pesticide Use Annual Summary Report to improve their utility and accessibility."

This bill requires DPR to prepare and submit quarterly reports, due sixty days after the end of each quarter, on the amount of chlorpyrifos in granular form used during the quarter to specified California Senate and Assembly Committees and to the Office of the Surgeon General. Current regulations require a pest control business to report a PUR to the county agricultural commissioner within seven days of application and a property owner to report a PUR by the tenth day of the month following the month in which the work was performed. Statute requires the county agricultural commissioner to submit the PURs it receives to DPR within one calendar month after they are received. DPR indicates that it then examines submitted PUR data, which is initially self-reported, to verify its accuracy for publication in CalPIP and in the annual PUR summary. This takes some time. The author may wish to consider extending the timeframe by which DPR must submit the report to allow for data to be received and verified by DPR for accuracy.

This bill also requires DPR to include in the report potential reasons for any increase or decrease in the use of chlorpyrifos in granular form in the quarter as compared to the same quarter of the previous year; a description of how DPR monitors exposure to the use of chlorpyrifos in granular form with a particular emphasis on dermal and inhalation exposure; and, any information relating to that exposure during the quarter. It is unclear how DPR, as is required by the bill, would ascertain the potential reasons for any increase or decrease in the use of chlorpyrifos in granular form in the quarter as compared to the same quarter of the previous year. If the author intends for DPR to check directly with applicators, growers, or county agricultural commissioners on the reasons for a change in the amount of chlorpyrifos used, instead of simply making an educated guess, she may wish to consider giving DPR additional time to complete this research.

Federal action on chlorpyrifos: Federal regulatory action on chlorpyrifos stretches back about two decades, when, in 2000, the US EPA finalized chlorpyrifos risk assessments for re-registration and identified the need to address health and environmental risks from chlorpyrifos exposure. At that time, the registrants of chlorpyrifos voluntarily entered into an agreement with US EPA to eliminate, phase out, and modify certain uses. The agreement included eliminating most homeowner uses of chlorpyrifos, except ant and roach baits in child resistant packaging and fire ant mound treatments.

While the US EPA made label changes and took other actions on chlorpyrifos over the years, most recently, in October 2015, under the Obama administration, the US EPA proposed to revoke all food residue tolerances for chlorpyrifos. Because tolerances are the maximum residue of a pesticide that can be in or on food, the proposed rule revoking all chlorpyrifos tolerances means that if this approach had been finalized, all agricultural uses of chlorpyrifos in the United States would have ceased. On November 3, 2016, the US EPA submitted *Chlorpyrifos: Revised Human Health Risk Assessment for Registration Review* (revised risk assessment), which concluded that exposure to chlorpyrifos from diet (i.e., residues of chlorpyrifos on food crops) and drinking water could lead to unacceptably high population exposures and determined that some reproductive-aged women, infants, and children consumed levels of chlorpyrifos substantially above the acceptable level for these vulnerable life stages. US EPA also identified numerous scenarios that could result in unsafe exposures for agricultural workers and bystanders.

As evidence of need for continued scrutiny of granular chlorpyrifos, proponents of the bill point to page 7 of the revised risk assessment, which states, "Using the updated [model for deriving toxicological points of departure] and [specified] uncertainty… all agricultural occupational handler scenarios, all primary seed treatment handler scenarios, and all secondary seed treatment

(planter) scenarios are of concern with label-specified and maximum levels of personal protective equipment (PPE) or engineering controls."

In March 2017, under the Trump administration, Scott Pruitt, the head of US EPA at the time, rejected the above scientific conclusion of US EPA's chemical safety and public health experts and rejected a petition filed a decade prior by the Pesticide Action Network and the Natural Resources Defense Council asking that the agency revoke all pesticide tolerances for chlorpyrifos and cancel all chlorpyrifos registrations. In rejecting the petition, Pruitt took what is known as a "final agency action" on the question of the safety and use of chlorpyrifos, suggesting that the matter would not likely be revisited until October 2022 when US EPA is formally required to re-evaluate the safety of the pesticide.

Judicial action on chlorpyrifos: In a long running court case on chlorpyrifos that dates back to 2007, on August 9, 2018, three appellate judges of the U.S. Ninth Circuit Court of Appeals ordered US EPA to prohibit the use of chlorpyrifos within 60 days. The court ruled that there was, "no justification for [US EPA's] decision in its 2017 order to maintain a tolerance for chlorpyrifos in the face of scientific evidence that its residue on food causes neurodevelopmental damage to children." Following the ruling, US EPA sought a rehearing, saying that the appeals court lacked jurisdiction to review Pruitt's March 2017 ruling. The US EPA stated that the court should have simply directed him to reconsider the evidence rather than order a ban. As a result, the Ninth Circuit took the rare step of granting US EPA's request to have the full panel of the appeals court rehear oral arguments. On April 17, 2019, the 11-judge appeals court panel ruled that US EPA must, within 90 days, review its 2017 decision to reverse its previous decision to prohibit the use of chlorpyrifos on food crops. On July 18, 2019, US EPA announced that it would not ban the use of chlorpyrifos because the data supporting objections to the use of the pesticide was "not sufficiently valid, complete or reliable." The agency added that it would continue to monitor the safety of chlorpyrifos through 2022.

Arguments in Support:

According to Earthjustice,

> "SB 86 [is] a bill that will provide important information to the Legislature on granular products of chlorpyrifos that remain available for use in California. The oversight function of the Legislature has come into sharper focus especially this year. Protecting public health of farmworkers and frontline communities is an essential function of state government. The data submitted to the legislature under SB 86 will empower the policy committees to track the use of granular uses of chlorpyrifos and its health impacts on farmworkers… It is important to monitor the use of granular products of chlorpyrifos as the chemical remains dangerous as long as it is allowed to be in use."

According to the American Academy of Pediatrics, California,

> "Chlorpyrifos is highly toxic, with demonstrated severe health effects at far below current average exposure levels. One long-term Columbia University study found that toddlers with higher levels of chlorpyrifos exposure displayed developmental delays by age three, and were more than five times as likely to be on the autism spectrum and more than 11 times as likely to display symptoms of attention disorders than their peers. In the 2016 Risk Assessment, the U.S. Environmental Protection Agency (USEPA) found that combined dermal and inhalation exposures exceeded the level USEPA determined was safe for workers even when maximal personal protective equipment or engineering controls were assumed…

Given the scientific evidence of the harm caused by chlorpyrifos, it is imperative that specific data on granular uses be provided to the legislature, empowering them to make responsible decisions regarding this product."

According to the United Farm Workers,

"This year, the world faces a global health pandemic. The Governor and policymakers are relying on science and medical experts to minimize harm to our public health. And, as scientists and medical experts throughout the country continue to conclude that NO SAFE FORM and NO SAFE LEVEL of chlorpyrifos exists, the United Farm Workers will not rest until this brain damaging chemical is legislatively banned in this state."

Arguments in Opposition:

According to a coalition of opponents,

"Our organizations do not oppose information on granular chlorpyrifos use being made available to the Legislature and public. However, this bill is unnecessary as California's Department of Pesticide Regulation (DPR) reports this data annually. Further, we are opposed to the findings of the bill as they are misleading and mischaracterize both the use and risk of granular chlorpyrifos. [*The letter lists the following arguments*.]

1) DPR already compiles an annual use report for all pesticides in California and quarterly reporting would result in unnecessary costs… Under the [existing] reporting program, all agricultural pesticides must be reported monthly to the county agricultural commissions, who then report the compiled data to DPR… All reports are compiled by DPR staff and indexed by chemical or commodity and made available online to the public… There should be considerations of the increased cost of quarterly reports before requiring the shifting of funds.

2) The findings in SB 86 are misleading as they do not acknowledge the work DPR has done to mitigate the risk of granular chlorpyrifos use or the differences between granular chlorpyrifos and chlorpyrifos applied through ground spray and aerial application… The findings of SB 86 claim that the use of granular chlorpyrifos results in unsafe levels of exposure to farm workers; can be found on food as a residue; and is tracked home by parents and siblings, which in turn impact young children. These insinuations of danger are untrue and do not consider the facts and scientific studies conducted by DPR…
   a) DPR extensively evaluates each pesticide before it can be registered for use in California for human health and environmental impacts…
   b) California has the most advanced system in the nation to ensure that no produce is sold to consumers with pesticide residue levels that would negatively impact human health…

3) Application of granular chlorpyrifos is severely restricted and any applicator must follow the label requirements for application."

REGISTERED SUPPORT / OPPOSITION:

Support

American Academy of Pediatrics, California (Co-Sponsor)
Earthjustice (Co-Sponsor)
United Farm Workers (UFW) (Co-Sponsor)
Association of Regional Center Agencies
California League of Conservation Voters
Californians for Pesticide Reform
Community Nature Connection
East Yard Communities for Environmental Justice
Environmental Working Group (EWG)
Friends of the L.A. River
From Lot to Spot
Los Angeles Waterkeeper
Mujeres de la Tierra
Natural Resources Defense Council (NRDC)
Pesticide Action Network North America
Physicians for Social Responsibility-Los Angeles
Sierra Club
1 Individual

Opposition

African American Farmers of California
Agricultural Council of California
Almond Alliance of California
American Chemistry Council
American Pistachio Growers
California Association of Pest Control Advisers
California Association of Winegrape Growers
California Chamber of Commerce
California Citrus Mutual
California Cotton Ginners and Growers Association, Inc.
California Farm Bureau Federation
California Fresh Fruit Association
California League of Food Producers
California Seed Association
Far West Equipment Dealers Association
Nisei Farmers League
Western Agricultural Processors Association
Western Growers Association
Western Plant Health Association

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