



California Notice 2026-05

To: Pesticide Registrants and Other Stakeholders

Subject: SEMIANNUAL REPORT SUMMARIZING THE REEVALUATION STATUS OF PESTICIDE PRODUCTS DURING THE PERIOD OF JULY 1, 2025, THROUGH DECEMBER 31, 2025

California regulations require the Department of Pesticide Regulation (DPR) to investigate all reports of adverse effects to public health or the environment that indicate a pesticide may have caused or is likely to cause a significant adverse impact. Reevaluation of a registered pesticide is required if from the investigation a significant adverse impact occurred, or is likely to occur, from its use.

Title 3 of the California Code of Regulations (3 CCR) section 6221, specifies several factors under which DPR may initiate a reevaluation, including but not limited to: (a) public or worker health hazard, (b) environmental contamination, (c) pesticide residue overtolerance, (d) fish or wildlife hazard, (e) lack of efficacy, (f) undesirable phytotoxicity, (g) hazardous packaging, (h) inadequate labeling, (i) disruption of the implementation or conduct of pest management, (j) other information suggesting a significant adverse effect, (k) availability of an effective and feasible alternative material or procedure that is demonstrably less destructive to the environment, and (l) discovery that data upon which a registration was issued is false, misleading, or incomplete. A DPR evaluation of pesticide data may trigger a reevaluation. Reevaluation triggers also include data or information received from registrants, state and county pesticide use surveillance and illness investigations, pesticide residue sample analyses, environmental monitoring activities, and issues that may concern other state or federal agencies.

When a pesticide enters the reevaluation process, DPR reviews existing data and may require that registrants provide additional data to characterize the nature and extent of the potential hazard and identify appropriate mitigation measures if needed.

DPR concludes reevaluations in several different ways. If data shows no significant adverse effect, DPR concludes the reevaluation without additional restrictions on use or other regulatory actions. If new restrictions are necessary, DPR places controls on the pesticide to mitigate the potential significant adverse effect. If the adverse impact cannot be mitigated, DPR cancels or suspends the registration of pesticide products meeting applicable legal standards.

This report complies with the requirement of 3 CCR section 6225, which requires DPR to prepare a semiannual report describing pesticides reevaluated, under reevaluation, or for which factual or scientific information was received, but no reevaluation was initiated. **Starting July 1, 2026, DPR will no longer post semiannual reports in this format and will instead comply with 3 CCR section 6225 with semiannual updates to the [Continuous Evaluation and Mitigation](#)**



[Update Webpage](https://cdpr.ca.gov/look-up-pesticide-info/continuous-evaluation-and-mitigation-update/) <cdpr.ca.gov/look-up-pesticide-info/continuous-evaluation-and-mitigation-update/>.

The report contains two sections:

- I. *Reevaluations* – initiated when an investigation indicates a significant adverse impact has occurred or is likely to occur; and,
- II. *Preliminary Investigations (Evaluations)* – initiated when DPR receives possible adverse impact data or information resulting from the use of a product and/or active ingredient, but no reevaluation has been initiated.

EXPANDING USE OF PESTICIDE PRODUCTS UNDER REEVALUATION

In January 2018, [California Notice 2018-01](https://cdpr.ca.gov/stakeholder-notice/expanding-use-of-pesticide-products-under-reevaluation/), <cdpr.ca.gov/stakeholder-notice/expanding-use-of-pesticide-products-under-reevaluation/>, titled *Expanding Use of Pesticide Products Under Reevaluation* was issued to inform stakeholders that DPR will not act upon an Application for Pesticide Registration or an Application to Amend Pesticide Product if it's relevant to the concern that prompted the reevaluation. When DPR completes the reevaluation, DPR will be able to, in light of the reevaluation determination, consider Applications for Pesticide Registration or Applications to Amend Pesticide Product.

A pesticide product certificate of registration (license) expires on December 31 of each year. Please note, DPR provides a one-year grace period during which registrants have the ability to renew inactivated products with payment of a late renewal fee. If, after a product's registration is voluntarily inactivated by the registrant, the registrant decides to reactivate the registration, the registrant may request reinstatement. DPR will accept requests for reinstatement of pesticide product registrations only until December 31 of the current renewal year. As a result, product numbers in this report may vary slightly throughout the year.

FOOD AND AGRICULTURAL CODE (FAC) SECTION 12824.5

In July 2024, the Governor signed Assembly Bill (AB) 2113 which, among other changes, added section 12824.5 to the Food and Agricultural Code (FAC). FAC section 12824.5(e) requires DPR to post on its internet website, on or before January 1, 2025, estimated completion times for the pesticides that the department has under reevaluation as of January 1, 2024.

The estimated completion times can be found on the [Continuous Evaluation and Mitigation Update Webpage](https://cdpr.ca.gov/look-up-pesticide-info/continuous-evaluation-and-mitigation-update/) <cdpr.ca.gov/look-up-pesticide-info/continuous-evaluation-and-mitigation-update/>.

REEVALUATION

DPR initiates a reevaluation when an investigation indicates a significant adverse impact has occurred or is likely to occur. Each current reevaluation is summarized below with the following five areas: (1) Basis and Scope, (2) Data Requirements (if any), (3) Summary of Scientific Evaluation (e.g., protocol development, study/data submission and evaluation, DPR analysis papers, risk assessments) and (4) Related Legislation (if any), and (5) Mitigation Efforts and Status (if any).

For up to date information on relevant milestones for the following reevaluations please see the [Continuous Evaluation and Mitigation Update Webpage](https://cdpr.ca.gov/look-up-pesticide-info/continuous-evaluation-and-mitigation-update/). <cdpr.ca.gov/look-up-pesticide-info/continuous-evaluation-and-mitigation-update/>.

CHLOROPICRIN – 30 Products

Basis and Scope

In October 2001, DPR placed pesticide products containing the fumigant active ingredient chloropicrin into reevaluation based on air monitoring data, which found that air concentrations at some distances from treated greenhouses exceeded the National Institute for Occupational Safety and Health reference exposure limit and the Occupational Safety and Health Administration permissible exposure limit of 100 parts per billion, averaged over an eight-hour period. In addition, DPR found that data submitted under the Birth Defects Prevention Act (FAC, section 13121 *et seq.*) indicated a potential for chloropicrin to cause adverse health effects at low doses.

Data Requirements

DPR first required chloropicrin registrants to conduct and submit data on various worker exposure and air quality monitoring studies from field and greenhouse applications. In August 2005, DPR completed review of required monitoring data and began a risk assessment of chloropicrin uses as part of the reevaluation process to mitigate potential adverse effects at low concentrations. In January 2015, DPR notified chloropicrin registrants of another data requirement to determine if chronic exposure to chloropicrin presents a carcinogenic hazard requiring mitigation. In July 2015, DPR established a mechanistic study data requirement to assess the carcinogenic hazard of chloropicrin. In August 2023, DPR required chloropicrin registrants to conduct five additional studies to more precisely evaluate chloropicrin's mutagenic potential.

Summary of Scientific Evaluation

The required mechanistic study was initially divided into three phases. In June 2016, DPR accepted the protocol for the Phase 1 mechanistic study titled, *Identification of mouse lung target cell type and target respiratory region for effects following nose-only inhalation exposure to chloropicrin vapor*. Due to several unforeseen circumstances and COVID-19 related delays, the Chloropicrin Manufacturers' Task Force (CMTF) submitted the Phase 1 results in September 2022, and final nasal tissue analysis in January 2023.

After review, DPR scientists determined the two remaining phases would not generate the data needed to determine if chloropicrin works by a mutagenic mode of action and if the mouse model for lung tumors is relevant in humans. DPR scientists evaluated the adverse outcome pathways for the formation of lung tumors in animal models and the most current literature and methodologies for evaluating mutagenesis. Throughout 2023, DPR met with CMTF to discuss proposed alternative studies using *in vivo* and *in vitro* techniques that would more quickly provide data to clarify chloropicrin's mode of action and mutagenic potential and if the mouse model for lung tumors is relevant for humans.

In August 2023, DPR required chloropicrin registrants to submit protocols for five studies: (1) *In vivo* mutagenesis following mouse inhalation exposure using error-corrected next-generation sequencing (ecNGS); (2) Regenerative proliferation following inhalation exposure, including both single (6 hour) and repeated (6 hour per day for 5 sequential days) exposure; (3) *Ex vivo* DNA adduct; (4) Test if inhibitors of CYP isoforms block cytotoxicity in mice; (5) Evaluate human relevance using CYP2F2-null and humanized (CYP2F1) mice if results from Study 4 are positive.

CMTF submitted draft protocols for these studies in fall 2023. CMTF began work on the first study in December 2023. In February 2025, CMTF submitted the final results from Study 1. In September 2025, CMTF submitted a preliminary results report for Study 4 indicating that the final results would be positive, thus DPR required Study 5 to be conducted. CMTF began work on Study 5 in November 2025. In December 2025, CMTF submitted final results for Studies 2 and 4, and informed DPR of delays for submission of the final results of Study 3 until mid-2026. Study 2 and 4 results are currently under review. Final results for the remaining Studies 3 and 5 are expected by July 2026.

Mitigation Efforts and Status

In March 2020, U.S. Environmental Protection Agency (U.S. EPA) issued its interim registration review decision for chloropicrin products. These federal revisions address separate issues from the scope of California reevaluation. Federally required label changes were accepted in 2024 and DPR continues to monitor amended pesticide product registrations to ensure labeling compliance.

For information on risk evaluation and mitigation for chloropicrin, visit [Information on Chloropicrin](https://cdpr.ca.gov/active-ingredient/chloropicrin/) <cdpr.ca.gov/active-ingredient/chloropicrin/>.

CYFLUTHRIN – 15 Products

Basis and Scope

In May 1998, DPR placed pesticide products containing the insecticide active ingredient cyfluthrin into reevaluation. The reevaluation is based on DPR's investigations of a May 1997 respiratory irritation outbreak reported among orange harvesters exposed to cyfluthrin residues and other related pesticide illness reports. As part of the investigation, DPR's Worker Health and Safety Branch conducted two separate inhalation-monitoring studies in orange groves during orange harvest. As dust and pollen are a part of the normal working environment, DPR determined that additional variables in the work environment led to the workers' respiratory

irritation symptoms. DPR compiled the results in its monitoring study titled, *Health and Safety Report HS – 1765*, which found a probability that cyfluthrin, applied close to harvest, led to the symptoms experienced.

Data Requirements

Under this reevaluation, DPR required registrants of pesticide products containing the active ingredient cyfluthrin to provide: (1) a respiratory irritation study, (2) a worker exposure study, and (3) monitoring data for structural applications. In October 2001, the primary manufacturer submitted two worker exposure studies regarding hand harvesting of oranges and sweet corn, four indoor exposures studies, and a study titled, *Study on the RD₅₀ Determination in Rats*. Based on this data, DPR determined structural monitoring data was no longer required. In February 2002, DPR required a worker exposure study during the harvesting of sweet corn. The results of the study were submitted to DPR in October 2004.

Summary of Scientific Evaluation

In 2006, DPR determined an exposure assessment was necessary for cyfluthrin. In September 2008, DPR completed a cyfluthrin Exposure Scoping Document intended to lay the groundwork for the risk assessment process. DPR completed its review of the cyfluthrin sweet corn hand harvester studies. In February 2025, DPR completed an updated Summary of Toxicology Data document for chronic health effects of cyfluthrin, which included new registrant-submitted studies dated March 2017 and May 2017, as well as the revised and updated human health risk assessments from U.S. EPA dated 2017 and 2019. On June 17, 2025, DPR completed a human health risk assessment scoping document. DPR staff are currently working to complete the human health risk assessment by Quarter 4 2026.

Mitigation Efforts and Status

In January 2018, DPR issued a problem formulation document to initiate risk assessment. U.S. EPA completed its registration review and released the draft human health risk assessment in May 2020 and the interim registration review decision in September 2020. In March 2021, U.S. EPA revised their interim registration review decision. DPR continues to review and monitor federal decisions on cyfluthrin pesticide product registrations. If DPR concludes in its human health risk assessment that use of cyfluthrin poses a significant risk to workers, DPR will proceed with mitigation.

For information on risk evaluation and mitigation for cyfluthrin, visit [Information on Cyfluthrin](https://cdpr.ca.gov/active-ingredient/cyfluthrin/) <cdpr.ca.gov/active-ingredient/cyfluthrin/>.

DIPHACINONE – 52 Products

Basis and Scope:

In October 2023, pesticide products containing the active ingredients diphacinone and diphacinone sodium salt (henceforth collectively referred to as diphacinone), which are classified as first-generation anticoagulant rodenticides (FGARs), were placed into reevaluation for concerns regarding non-target wildlife. In target rodents, death is usually delayed by several days

after direct consumption of a lethal dose. Non-target wildlife may be exposed by direct consumption of diphacinone or via consumption of target rodents that have ingested diphacinone (indirect consumption).

DPR's May 2023 *Notice of Proposed Decision to Begin Reevaluation on Diphacinone and Public Report* concluded that there have been substantial increases in diphacinone exposure rates to non-target wildlife, as represented in the California Department of Fish and Wildlife (CDFW) loss reports. These increases are concerning given the toxicity of diphacinone to mammals and birds, and potential to bioaccumulate. This, along with increases in sales and use data of diphacinone in recent years, suggests that there are increasing amounts of diphacinone in California's environment, which demonstrates that a significant adverse impact to non-target wildlife has occurred or is likely to occur.

Data Requirements

Under this reevaluation, DPR required registrants of diphacinone pesticide products to: (1) submit compliance proposals by December 2023 and identify relevant data, and (2) submit identified data by January 2024. All registrants of diphacinone products have complied.

In June 2022, DPR contracted with Dr. Niamh Quinn, University of California Agriculture and Natural Resources, through 2024 to monitor for anticoagulant rodenticides (ARs) in urban carnivores (#21-C0091). This study and its results may provide general information to DPR on ARs. DPR granted a contract extension to allow sample processing to be completed. A final report is expected by January 2026.

Summary of Scientific Evaluation

DPR staff are currently considering all diphacinone data submitted and on file to determine if further use restrictions are necessary.

Mitigation Efforts and Status

DPR held meetings with CDFW to consult on potential mitigation measures in adherence with the "Related Legislation" section below. In September 2025, DPR hosted an informal public workshop to share draft mitigations for second- and first-generation anticoagulant rodenticides, including diphacinone. The workshop was followed by a 45-day informal comment period. DPR is considering all comments submitted and continues to refine potential mitigation options in consultation with CDFW.

Related Legislation

In October 2023 and in September 2024, Governor Newsom signed AB 1322 (Chapter 836, Statutes of 2023) and AB 2552 (Chapter 571, Statutes of 2024) respectively, which amended FAC section 12978.7. The amendments prohibit certain uses of diphacinone, first-generation anticoagulant rodenticides (specifically warfarin, warfarin sodium salt, and chlorophacinone), and second-generation anticoagulant rodenticides, due to their threat to mountain lions and other wildlife. These bills also establish the standards, including conclusion of the diphacinone reevaluation, that are necessary to remove the prohibition. Effective January 1, 2024, most uses

of rodenticides containing diphacinone were prohibited and required to be sold by licensed dealers. This prohibition will remain in effect until the DPR's Director certifies completion of the diphacinone reevaluation and DPR's development, in concurrence and consultation with the CDFW, and adoption of any additional use restrictions necessary to protect wildlife including a requirement to implement integrated pest management alternatives before the use of diphacinone.

Although FAC 12978.7 generally prohibits use of diphacinone, there are limited exemptions for specified activities, such as agriculture, and use in locations necessary for public health and safety. Federal and state laws and regulations applicable to allowed uses must continue to be followed. Guidance on permitted uses of diphacinone under AB 1322 and AB 2552 are available on DPR's Enforcement Branch Web page titled [Enforcement letter 23-19](https://cdpr.ca.gov/cac-letter/diphacinone-restricted-material-status-prohibitions-allowed-uses-and-questions-and-answers/) <cdpr.ca.gov/cac-letter/diphacinone-restricted-material-status-prohibitions-allowed-uses-and-questions-and-answers/> and the page titled [Enforcement letter 24-20](https://cdpr.ca.gov/cac-letter/chlorophacinone-and-warfarin-restricted-material-status-prohibitions-allowed-uses-and-questions-and-answers/) <cdpr.ca.gov/cac-letter/chlorophacinone-and-warfarin-restricted-material-status-prohibitions-allowed-uses-and-questions-and-answers/>.

For information on risk evaluation and mitigation for diphacinone, visit [Information on Diphacinone](https://cdpr.ca.gov/active-ingredient/diphacinone/) <cdpr.ca.gov/active-ingredient/diphacinone/> and [Information on Diphacinone Sodium Salt](https://cdpr.ca.gov/active-ingredient/diphacinone-sodium-salt/) <cdpr.ca.gov/active-ingredient/diphacinone-sodium-salt/>.

NEONICOTINOIDS (Non-agricultural Uses on Non-production Outdoor Ornamental Plants, Trees, or Turf) – 105 Products

Basis and Scope

On January 1, 2024, AB 363 amended FAC section 12838. FAC section 12838(c)(3)(B) states that on or before July 1, 2024, the department shall initiate a reevaluation of neonicotinoid pesticides (containing the active ingredients imidacloprid, thiamethoxam, dinotefuran, clothianidin, and acetamiprid) for non-production agricultural outdoor uses on ornamental plants, trees, or turf for potential impacts on pollinating insects, aquatic organisms, and human health, taking into account relevant routes of exposure. In March 2024, DPR released [California Notice 2024-05](https://cdpr.ca.gov/stakeholder-notice/notice-of-initiation-of-reevaluation-of-neonicotinoid-products-intended-for-non-agricultural-use-on-non-production-outdoor-ornamental-plants-tress-or-turf/), <cdpr.ca.gov/stakeholder-notice/notice-of-initiation-of-reevaluation-of-neonicotinoid-products-intended-for-non-agricultural-use-on-non-production-outdoor-ornamental-plants-tress-or-turf/>, noticing the initiation of the reevaluation mandated by AB 363.

Data Requirements

DPR has not required data for this reevaluation. DPR evaluators are currently reviewing data on file to determine if additional data are needed. If data are required, DPR will notify registrants with products included in the reevaluation.

Summary of Scientific Evaluation

In December 2024, DPR completed a Risk Characterization Document (RCD) for the non-agricultural uses for imidacloprid. In June 2025, DPR completed its evaluation on the impacts of all five neonicotinoid pesticides on aquatic organisms: [Evaluating Potential Impacts of Five Neonicotinoid Pesticides on Aquatic Organisms from Applications on Nonproduction Outdoor](#)

[Ornamental Plants, Trees, and Turf](https://cdpr.ca.gov/report/evaluating-potential-impacts-of-five-neonicotinoid-pesticides-on-aquatic-organisms-from-applications-on-nonproduction-outdoor-ornamental-plants-trees-and-turf/) <cdpr.ca.gov/report/evaluating-potential-impacts-of-five-neonicotinoid-pesticides-on-aquatic-organisms-from-applications-on-nonproduction-outdoor-ornamental-plants-trees-and-turf/>. In December 2025, DPR completed four RCDs for non-agricultural uses for the remaining neonicotinoids: acetamiprid, clothianidin, dinotefuran, and thiamethoxam. DPR will evaluate whether any exposure scenarios of concern identified in the five final assessments would require additional control measures to protect human health. Additionally, DPR is considering additional control measures for the use of neonicotinoid pesticides based on the evaluations of aquatic organisms and pollinators.

Related Legislation

Effective January 1, 2025, FAC section 12838 prohibits the sale, possession, or use of non-agricultural neonicotinoid products with uses on non-production ornamental plants, trees, or turf by non-licensed applicators. This statute also requires DPR to evaluate the potential impacts of neonicotinoid pesticides labeled for use on non-production outdoor ornamental plants, trees, and turf for potential impacts on pollinating insects, aquatic organisms, and human health. DPR must provide a determination by July 1, 2027, and adopt any necessary control measures by July 1, 2029.

Mitigation Efforts and Status

In October 2024, DPR released California Notice 2024-18, informing registrants and stakeholders that effective January 1, 2025, neonicotinoid pesticide products used for non-agricultural uses on outdoor trees, turf, or ornamental plants can only be sold by licensed dealers and possessed or used by California certified commercial applicators. Guidance on permitted uses for neonicotinoid pesticide products with non-agricultural uses on outdoor trees, turf, or ornamental plants under AB 363 are available on DPR's Enforcement Branch Web page titled [Enforcement letter 24-12](https://cdpr.ca.gov/cac-letter/neonicotinoid-pesticides-for-non-agricultural-outdoor-use-new-law-and-questions-and-answers/) <cdpr.ca.gov/cac-letter/neonicotinoid-pesticides-for-non-agricultural-outdoor-use-new-law-and-questions-and-answers/>.

For information on risk evaluation and mitigation for imidacloprid, visit [Information on Imidacloprid](https://cdpr.ca.gov/active-ingredient/imidacloprid/) <cdpr.ca.gov/active-ingredient/imidacloprid/>. For information on risk evaluation and mitigation for thiamethoxam, visit [Information on Thiamethoxam](https://cdpr.ca.gov/active-ingredient/thiamethoxam/) <cdpr.ca.gov/active-ingredient/thiamethoxam/>. For information on risk evaluation and mitigation for dinotefuran, visit [Information on Dinotefuran](https://cdpr.ca.gov/active-ingredient/dinotefuran/) <cdpr.ca.gov/active-ingredient/dinotefuran/>. For information on risk evaluation and mitigation for clothianidin, visit [Information on Clothianidin](https://cdpr.ca.gov/active-ingredient/clothianidin/) <cdpr.ca.gov/active-ingredient/clothianidin/>. For information on risk evaluation and mitigation for acetamiprid, visit [Information on Acetamiprid](https://cdpr.ca.gov/active-ingredient/acetamiprid/) <cdpr.ca.gov/active-ingredient/acetamiprid/>.

PARAQUAT DICHLORIDE – 6 Products

Basis and Scope

On September 27, 2024, Governor Newsom signed AB 1963 which added sections 14085 and 14086 to the FAC. Specifically, FAC section 14086 requires the following: “On or before

January 1, 2029, the department shall complete a reevaluation of paraquat dichloride pursuant to section 12824, and make the determination to retain, cancel, or suspend its registration or to place new appropriate restrictions on the use of pesticide products containing the active ingredient paraquat dichloride.” For the full bill text please visit: [AB-1963 Pesticides: Paraquat dichloride](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240AB1963) <leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240AB1963>.

On November 6, 2024, DPR released [California Notice 2024-20](https://cdpr.ca.gov/stakeholder-notice/notice-of-initiation-of-reevaluation-of-paraquat-dichloride/) <cdpr.ca.gov/stakeholder-notice/notice-of-initiation-of-reevaluation-of-paraquat-dichloride/>, informing registrants of the initiation of reevaluation of paraquat dichloride mandated by AB 1963. The initiation of this reevaluation also meets the requirements of FAC section 12824.5 (a)(1) which requires DPR on or before July 1, 2025, and annually thereafter until July 2, 2029, to initiate the reevaluation of at least one pesticide in addition to those already under reevaluation.

During the public comment period in response to [California Notice 2022-18](https://cdpr.ca.gov/stakeholder-notice/notice-of-proposed-decision-to-renew-pesticide-product-registrations-for-2023-directors-finding-and-public-report/), titled *Notice of Proposed Decision to Renew Pesticide Product Registrations for 2023, Director’s Finding and Public Report* <cdpr.ca.gov/stakeholder-notice/notice-of-proposed-decision-to-renew-pesticide-product-registrations-for-2023-directors-finding-and-public-report/>, and [California Notice 2023-12](https://cdpr.ca.gov/wp-content/uploads/2024/10/ca2023-12.pdf), titled *Notice of Proposed Decision to Renew Pesticide Product Registrations for 2024, Director’s Finding and Public Report* <cdpr.ca.gov/wp-content/uploads/2024/10/ca2023-12.pdf>, DPR received comments requesting that DPR reevaluate, suspend, or cancel products containing paraquat dichloride. DPR received 4,683 identical or substantially similar comments submitted pursuant to an email campaign, as well as six unique comments containing references to public literature and studies. DPR reviewed all of the information submitted in these public comments and on December 30, 2024, released [California Notice 2024-23](https://cdpr.ca.gov/stakeholder-notice/preliminary-reports-relative-to-reevaluation-of-paraquat-informal-public-comment-period/), titled *Preliminary Reports Relative to Reevaluation of Paraquat: Informal Public Comment Period* <cdpr.ca.gov/stakeholder-notice/preliminary-reports-relative-to-reevaluation-of-paraquat-informal-public-comment-period/>. California Notice 2024-23 informed stakeholders of the release of two preliminary reports regarding DPR’s investigation into the human health and ecological data submitted and opened a 45-day informal public comment period to solicit feedback on these reports from paraquat registrants and the public. DPR also requested input from stakeholders on critical uses of paraquat and currently available, effective alternatives as part of this informal public comment period. DPR received 44 comments and 69 new citations referencing public literature and studies during the informal comment period.

Data Requirements

After preliminary review of the comments received, in June 2025, DPR notified paraquat dichloride registrants of a data requirement, specifically 2 studies to fulfill deficiencies in the database for paraquat: a guideline rabbit developmental toxicity study and a non-guideline comparative thyroid assay. DPR also requested that paraquat dichloride registrants submit mitigation proposals for use concerns affecting non-target birds and mammals as detailed in 2024’s Preliminary Report of the Potential Risks to Environment from Paraquat Exposure. In October 2025, the Paraquat Working Group (PWG) submitted their mitigation proposal to DPR. In December 2025, the PWG submitted protocols for the two required studies. PWG submitted 6 additional study protocols for range finding studies intended to enable the design of the two required studies. DPR is currently reviewing the submitted mitigation proposal and study protocols.

For information on risk evaluation and mitigation for paraquat dichloride, visit [Information on Paraquat Dichloride](https://cdpr.ca.gov/active-ingredient/paraquat-dichloride/) <cdpr.ca.gov/active-ingredient/paraquat-dichloride/>

SECOND-GENERATION ANTICOAGULANT RODENTICIDES (SGARs) – 59 Products

Basis and Scope

Second-generation anticoagulant rodenticide (SGAR) products are those that contain the active ingredients brodifacoum, bromadiolone, difenacoum, and difethialone (collectively referred to as SGARs). DPR conducted a preliminary investigation of unpublished wildlife incident data and mortality data and public literature submitted by CDFW and other sources on anticoagulant rodenticides and prepared a report on its findings.

Based on the investigation, the Director found that a significant adverse impact has occurred or is likely to occur to non-target wildlife from the use of SGARs and proposed to begin reevaluation. In November 2018, DPR issued its proposed decision to begin reevaluation for SGAR products for public comment. In March 2019, DPR issued its final decision to begin reevaluation for SGAR products.

Data Requirements

Under this reevaluation, DPR required registrants of SGAR pesticide products to: (1) submit compliance proposals by May 2019, and (2) submit existing data related to non-target wildlife exposure by June 2019. Registrants of brodifacoum, bromadiolone, and difethialone products complied. However, in place of submitting compliance proposals and data, difenacoum registrants submitted voluntary cancellations for all registered difenacoum products. As of May 2019, DPR no longer has difenacoum products actively registered for use in California.

In 2020, DPR contracted with Dr. Niamh Quinn, University of California Agriculture and Natural Resources, to conduct a study on rodenticide Best Management Practices (#19-C0061). DPR authorized the researcher under Food and Agricultural Code (FAC) section 12978.7, and a final report was submitted. DPR's conditional authorization of additional research by Dr. Quinn's ended July 2023.

In June 2022, DPR contracted with Dr. Niamh Quinn, University of California Agriculture and Natural Resources, through 2024 to monitor for ARs in urban carnivores (#21-C0091). This study and its results may provide general information to DPR on ARs. DPR granted a contract extension to allow sample processing to be completed. A final report is expected by January 2026.

Summary of Scientific Evaluation

DPR staff are currently considering all SGAR data submitted and on file to determine if further use restrictions are necessary.

Mitigation Efforts and Status

In November 2022, U.S. EPA issued their proposed interim decision (PID) for anticoagulant rodenticides which included all SGARs followed by a Final Biological Evaluation in November 2024. Additionally in 2022, DPR completed review of data on file. DPR continues to review and monitor federal decisions on SGAR pesticide product registrations. DPR continues to work with SGAR registrants, the Rodenticide Task Force, interested stakeholders, researchers, and federal counterparts to discuss potential mitigation strategies and any proposed actions on anticoagulant rodenticides.

Throughout 2023, DPR met with and solicited feedback from Pest Control Operators, non-governmental organizations, California Department of Public Health, CDFA, and CDFW to discuss potential mitigation measures. DPR and CDFW continue to meet annually under current legislation. DPR continues to refine potential mitigation options and consider if further use restrictions are necessary to protect non-target wildlife.

In 2024, DPR held meetings with CDFW to discuss potential mitigation measures in adherence with consultation requirements of AB 1322 (see the “Related Legislation” section below). DPR continues to refine potential mitigation options and consider if further use restrictions are necessary to protect non-target wildlife.

In September 2025, DPR hosted an informal public workshop to share draft mitigations for second- and first-generation anticoagulant rodenticides, including diphacinone. The workshop was followed by a 45-day informal comment period. DPR is considering all comments submitted and continues to refine potential mitigation options in consultation with CDFW.

Related Legislation

On September 29, 2020, Governor Newsom signed Assembly Bill (AB) 1788 (Chapter 250, Statutes of 2020). The amendments prohibit certain uses of SGARs due to their threat to mountain lions and other wildlife. In addition, on October 13, 2023, and on September 25, 2024, Governor Newsom signed AB 1322 (Chapter 836, Statutes of 2023) and AB 2552 (Chapter 571, Statutes of 2024) respectively, all of which amended FAC section 12978.7. These bills also establish standards, including conclusion of the SGAR reevaluation, that are necessary to remove the prohibition. This prohibition will remain in effect until the DPR’s Director certifies completion of the SGAR reevaluation and DPR’s development, in concurrence and consultation with the CDFW, and adoption of any additional use restrictions necessary to protect wildlife including a requirement to implement integrated pest management alternatives before the use of SGARs.

Although FAC section 12978.7 generally prohibits use of SGARs, there are limited exemptions for specified activities, such as agriculture, and use in locations necessary for public health and safety. Federal and state laws and regulations applicable to allowed uses must continue to be followed. Guidance on permitted uses of SGARs are available on DPR’s Enforcement Branch Web pages titled [Enforcement letter 23-19](https://cdpr.ca.gov/cac-letter/diphacinone-restricted-material-status-prohibitions-allowed-uses-and-questions-and-answers/) <cdpr.ca.gov/cac-letter/diphacinone-restricted-material-status-prohibitions-allowed-uses-and-questions-and-answers/> and the page titled

[Enforcement letter 24-20](https://cdpr.ca.gov/cac-letter/chlorophacinone-and-warfarin-restricted-material-status-prohibitions-allowed-uses-and-questions-and-answers/) <cdpr.ca.gov/cac-letter/chlorophacinone-and-warfarin-restricted-material-status-prohibitions-allowed-uses-and-questions-and-answers/>.

For information on risk evaluation and mitigation for brodifacoum, visit [Information on Brodifacoum](https://cdpr.ca.gov/active-ingredient/brodifacoum/) <cdpr.ca.gov/active-ingredient/brodifacoum/>. For information on risk evaluation and mitigation for bromadiolone, visit [Information on Bromadiolone](https://cdpr.ca.gov/active-ingredient/bromadiolone/) <cdpr.ca.gov/active-ingredient/bromadiolone/>. For information on risk evaluation and mitigation for difenacoum, visit [Information on Difenacoum](https://cdpr.ca.gov/active-ingredient/difenacoum/) <cdpr.ca.gov/active-ingredient/difenacoum/>. For information on risk evaluation and mitigation for difethialone, visit [Information on Difethialone](https://cdpr.ca.gov/active-ingredient/difethialone/) <cdpr.ca.gov/active-ingredient/difethialone/>.

PRELIMINARY INVESTIGATIONS (EVALUATIONS)

DPR conducts preliminary investigations of products (and active ingredients) for which the Department, or other state or county agencies, have identified possible hazards. As a result of evaluation, the investigation may lead to formal reevaluation.

TOTAL RELEASE FOGGERS

Basis and Scope:

Total release foggers (TRFs), also known as foggers or bug bombs, are pesticide products designed to release their contents into an enclosed area. Once activated, the canister is designed to continuously disperse a fine mist or fog into the air and they are often used indoors to kill insects. Most of the insecticide settles onto exposed surfaces and eliminates the insects that are in the open, though some of the fine mist may penetrate cracks and crevices. They are inexpensive, widely available, and do not require specialized training, making them a convenient pest control option for consumers. Because they release their entire contents without a shutoff mechanism, individuals may be exposed to the dispersing mist during activation or reentering the structure if it has not been properly ventilated.

DPR has begun an investigation of TRF-related Pesticide Illness Surveillance Program (PISP) data for the years 2018-2023.

ADDITIONAL RESOURCES

For more information on this semiannual report or any of DPR's reevaluations, visit the [Reevaluation Program Webpage](http://cdpr.ca.gov/how-pesticides-are-evaluated/#continuous-evaluation-after-a-pesticide-is-registered-in-ca) <cdpr.ca.gov/how-pesticides-are-evaluated/#continuous-evaluation-after-a-pesticide-is-registered-in-ca> or the [Continuous Evaluation and Mitigation Update Webpage](http://cdpr.ca.gov/look-up-pesticide-info/continuous-evaluation-and-mitigation-update/) <cdpr.ca.gov/look-up-pesticide-info/continuous-evaluation-and-mitigation-update/> or contact Mr. Ajay Kumar, Environmental Scientist, at <Ajay.Kumar@cdpr.ca.gov> or 916-445-6941.

Original signed by

Tulio Macedo, Chief
Pesticide Registration Branch
916-324-3527

06/05/2026

Date

cc: Ajay Kumar, Environmental Scientist