BEYOND PESTICIDES
701 E Street, SE ▪ Washington DC 20003
202-543-5450 phone ▪ 202-543-4791 fax
info@beyondpesticides.org ▪ www.beyondpesticides.org

September 11, 2026

California Department of Pesticide Regulation
California Environmental Protection Agency
3077 Fite Circle, Suite 100
Sacramento, CA 95827

Re: Pesticide Priority Recommendation Form

Dear Madam/Sir,

These comments are submitted on behalf of Beyond Pesticides and our members in California. Founded in 1981 as a national, grassroots membership organization that represents community-based organizations and a range of people seeking to bridge the interests of consumers, farmers, and farmworkers, Beyond Pesticides advances improved protections from pesticides and alternative pest management strategies that eliminate a reliance on pesticides. Our membership and network span the 50 states and the world.

We are writing regarding California Department of Pesticide Regulation's (CDPR) Scientific Prioritization and Review Committee (SPARC) and the opportunity to recommend pesticides to prioritize for scientific evaluation.[1] As decades worth of peer-reviewed, independent research connects individual active ingredients, classes of pesticides, and pesticide mixtures to adverse health and environmental effects, Beyond Pesticides urges that all petrochemical pesticides and fertilizers are phased out of use and a wide scale transition to organic agriculture, as defined by California and federal law, and land management is adopted.

Many pesticide active ingredients, such as the herbicides 2,4-D, glyphosate, and atrazine, are extensively studied and serve as poster children for the regulatory system, with serious deficiencies, that allows numerous toxic pesticides to harm health and the environment with known adverse effects and incomplete analyses. These chemicals are representative of a wide range of pesticides that are linked to endocrine disruption, reproductive dysfunction, cancer, specific organ toxicity, birth and developmental effects, neurotoxicity, immunotoxicity, and learning impairments, among others.[2,3,4] Research documents that exposure to endocrine-disrupting pesticides (EDPs) leads to dysfunction of the body's endocrine system as well as additional health effects such as cancer, brain and nervous system disorders, immune system disorders, diabetes, learning and developmental impacts, and sexual and reproductive dysfunction.[5] In a literature review published in *Ecotoxicology and Environmental Safety*, the authors highlight a multitude of studies on endocrine-disrupting chemicals (EDCs) and EDPs showing epigenetic effects from exposure, as the chemicals imitate the action of endocrine hormones and lead to gene damage and multigenerational adverse effects to health, including hormonal disruptions, developmental issues, and cancer.[6] These effects result from complex mechanisms that are not fully assessed in the pesticide registration process, creating a major

life-threatening deficiency in the regulatory review of pesticides that must be addressed before active ingredients and full product formulations are approved.

Pesticide Classes of Concern

A wide body of scientific literature highlights how pesticides within the same class of chemicals will have common mechanisms of toxicity, such as with oxidative stress and disruption of the nervous system or hormonal pathways.

Neonicotinoids

As the most commonly used insecticides to coat pesticide-treated seeds, neonicotinoids are a representative class of the dangers associated with exposure to all pesticides. A myriad of peer-reviewed scientific studies highlight how these toxic chemicals, which are also applied by foliar sprays and soil applications, are linked to adverse health effects, including neurological impairments. Beyond Pesticides cited in previous comments in 2024 and 2017 a study by Kimura-Kuroda et al. (2016), which finds that "chronic neonicotinoid exposure alters the transcriptome of the developing mammalian brain in a similar way to nicotine exposure."[7,8,9] Furthermore, the inhibition of acetylcholinesterase increases reactive oxygen species (ROS) (unstable molecules), leading to oxidative stress that harms cell function and the body's normal detoxification mechanism and epigenetic modifications (DNA damage).[10] In this context, CDPR must recognize the common mechanism of toxicity and the extensive dietary and nondietary exposures among all the neonicotinoids.

Neonicotinoids, intended to target insects with this mechanism, have been found to affect mammalian nicotinic acetylcholine receptors (nAChRs). These receptors are of critical importance to human brain function, especially during development and for memory, cognition, and behavior.[11] A review of the scientific evidence by Cimino et al. (2017) finds that there are reported associations between chronic neonicotinoid exposures and adverse developmental outcomes, including neurological effects.[12] Additional studies report that neonicotinoid pesticides impair mammalian reproduction and have developmental effects in mammals that include reduced sperm production and function; reduced pregnancy rates; higher rates of embryo death, stillbirth, and premature birth; and reduced weight of offspring.[13,14,15,16]

In addition, "the first comprehensive assessment of unpublished rodent developmental neurotoxicity (DNT) studies on five neonicotinoids that were submitted to the U.S. Environmental Protection Agency (EPA) by neonicotinoid manufacturers" highlights evidence of developmental neurotoxicity.[17] The study finds that exposure to five neonicotinoids causes statistically significant shrinkage of brain tissue. The authors report that even with this data, "EPA dismissed statistically significant adverse effects, accepted substandard DNT studies despite lack of valid positive control data, and allowed neonicotinoid registrants to unduly influence agency decision-making."[17]

Under the *Federal Insecticide, Fungicide, and Rodenticide Act* (FIFRA), a pesticide is presumed to pose an unreasonable risk until reliable data demonstrates otherwise. Moreover, if the agency lacks the data and/or resources to fully evaluate endocrine risks to human health

and wildlife, then the agency is obliged to suspend or deny any pesticide registration until it has sufficient data to demonstrate that the pesticide's registration is in compliance with the statutory standard—no "unreasonable adverse risk" of endocrine disruption. EPA, and subsequently CDPR, does not consider neonicotinoids as endocrine disruptors, despite the wide body of science that finds neonicotinoid pesticides suppress natural hormone function, interfere with thyroid functions, disrupt hormone synthesis and metabolism, and adversely affect reproduction and the nervous system.[18,19,20,21]

Per- and poly-fluoroalkyl substances (PFAS)

PFAS are associated with a multitude of adverse health and environmental effects. PFAS are of particular concern as these persistent, bioaccumulative, endocrine-disrupting chemicals have become omnipresent and are found in plastic containers, non-stick cookware, cleaning/personal care products, food packaging, pesticides, and other consumer products. Because of their ubiquitous use, studies report that PFAS compounds are detectable in infants, children, and pregnant women.[22] Furthermore, pregnant women can readily transfer compounds to the developing fetus through the placenta. PFAS residues are persistent in food and drinking water, with over six million U.S. residents regularly encountering drinking water with PFAS levels above the EPA health advisory of 70 ng/L.[23] Therefore, PFAS are detectable in almost all of the U.S. population—disproportionately afflicting people of color communities[24]—and have implications for human health.

Additionally, of serious concern are the many PFAS known to break down in the environment to other compounds such as trifluoroacetic acid (TFA), which is noted as one of the most pervasive PFAS water contaminants in the world and is the most extensively studied ultrashort-chain perfluoroalkyl acid (PFAA).[25] Like other PFAS with long chains of carbon atoms, ultrashort-chain PFAAs are very stable due to their carbon-fluorine bonds. The shorter-chain compounds, however, have unique properties that create additional threats. With increased hydrophilicity (attraction to water) and enhanced water solubility (ability to dissolve), ultrashort-chain PFAAs within global waterways and the atmosphere are more easily able to circulate and be widely distributed. An additional risk with ultrashort-chain PFAAs contamination in water is that these properties enable the compounds to evade removal by conventional water treatment methods.

From widespread presence in farm fields and sewage sludge (biosolids) to contaminated water bodies throughout the U.S., PFAS have made their way into the environment and human bodies. PFAS are even present in remote environments like the Arctic, Antarctica, and Eastern European Tibetan Plateau. The U.S. Centers for Disease Control and Prevention (CDC) determined that almost all Americans have some level of PFAS in their bloodstream, which highlights PFAS as a chronic danger to people that demands urgent regulatory action.[26]

EPA continues to ignore the widely accepted definition of PFAS that is supported by scientists and by the Organisation for Economic Co-operation and Development (OECD).[27] EPA's current definition is at odds with the prevalent scientific thinking of scientists worldwide who have challenged the agency's position and its resulting risk assessments. The OECD chemical definition of PFAS states, "PFASs are defined as fluorinated substances that contain at least one

fully fluorinated methyl or methylene carbon atom (without any H/Cl/Br/I atom attached to it), i.e., with a few noted exceptions, any chemical with at least a perfluorinated methyl group ($-CF_3$) or a perfluorinated methylene group ($-CF_2-$) is a PFAS."[27] This definition of PFAS encompasses gases, pesticides, and pharmaceuticals, many of which can degrade to form additional PFAS, such as TFA, that regulatory bodies like EPA do not include in their definitions.

The OECD definition includes a wide variety of fluorinated compounds (containing the element fluorine) and is "scientifically grounded, unambiguous, and well suited to identify these chemicals," as described by scientists in a commentary published in *Environmental Science & Technology Letters*.[28] As the researchers describe, excluding certain fluorinated chemical subgroups does not properly represent the scope of PFAS, which they estimate to include millions of theoretical structures, but more practically, several thousand that are actually manufactured. Given the persistence of PFAS in the environment and the human body, adding additional exposure through PFAS pesticides has an additive effect with serious health consequences for chronic effects.

Summary

With known harm of pesticides widely catalogued in the independent peer-reviewed scientific literature, CDPR has a statutory duty to evaluate whether pesticide use and human and environmental exposure is "unreasonable," given the availability of an alternative—an organic production system—that does not harm human health, other species, or ecosystems and, in addition, helps to mitigate existential threats such as biodiversity collapse and climate change. In all its decisions, CDPR must use organic production as a yardstick, denying any toxic chemical for which organic production is successful. The consideration of alternative management practices and materials that are available, such as those used in organic agriculture, is crucial in conducting an accurate assessment, compliant with the unreasonable adverse effects standard of FIFRA[29] and state law, that determines ongoing allowances of continued and expanded pesticide use. A failure to evaluate alternative practices and products to the proposed or existing pesticide registration results in a decision that lacks scientific integrity.

With a holistic strategy, such as organic land management under the *Organic Foods Production Act* (OFPA) and the *California Organic Food and Farming Act* (COFFA), the government must consider "cradle-to-grave" effects from production through use to disposal and require that systems are put in place to prevent the need for use of synthetic materials. In this context, the goal is to eliminate the use of petrochemical substances that are contributing to daily health threats, biodiversity collapse, and the climate emergency. Organic agriculture offers a long-term solution to pesticide contamination. Under OFPA, organic producers are prohibited from using petrochemical fertilizers and biosolids (sewage sludge), often contaminated with pesticide residues and heavy metals.

The organic law defaults against synthetic pesticides, requiring a rigorous review of exceptions under the National List of Allowed and Prohibited Substances provision, a review framework overseen by the National Organic Standards Board (NOSB). As the only agricultural system with a requirement for a farm plan, inspections, and certification for compliance with

organic standards, and rigorous public oversight, organic farming promotes sustainable, cost competitive, and profitable practices that enhance soil health and biodiversity. Organic is successfully mitigating the escalating public health, environmental, and climate crises, while EPA inaction on identifying, remediating, and preventing pesticide contamination throughout the country contributes to a growing problem.

Starting with the pesticide classes listed above, we urge CDPR to reject the use of all petrochemical pesticides (those not compliant with OFPA) and adopt organic methods for agriculture and land management as the standard in judging acceptable risk under state and federal pesticide registration law. As EPA fails in adhering to FIFRA's statutory mandate and protecting all health and the environment, CDPR has the opportunity and responsibility to eliminate uses of all petrochemical pesticides and synthetic fertilizers that pose unreasonable and adverse effects such as neurotoxicity and endocrine disruption.

Thank you for your consideration of our comments.

Respectfully,



Sara Grantham
Science, Regulatory, and Advocacy Manager

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