

Beyond Pesticides (Sara Grantham)

Thank you for the opportunity to comment! Please see our attached comments or access them here: <https://bp-dc.org/bp-comments-to-cdpr-on-pesticide-treated-seeds-july-2026>

We are writing regarding California Department of Pesticide Regulation's (CDPR) proposed regulatory action regarding pesticide-treated seeds. The agency states: "DPR proposes to adopt section 6626.5 and amend sections 6000, 6147, 6691 and 6760 of Title 3, California Code of Regulations. The proposed regulatory action will add a definition for pesticide-treated seed; exempt pesticide-treated seeds from registration when they meet certain conditions specific to California; require the reporting of pesticide-treated seeds planted in California; and provide exemptions to regulatory requirements for the planting of pesticide-treated seeds when certain conditions are met." ¹

This rulemaking is intended to harmonize CDPR's regulations with the U.S. Environmental Protection Agency's (EPA) regulation of pesticide-treated seeds "as pesticides exempt from registration under Title 40, Code of Federal Regulations (40 CFR) section 152.25(a)," ¹ while also incorporating state-specific conditions. Beyond Pesticides and public health advocates view pesticide-related notification as an important aspect of transparency for the public, but this action does not address the root causes and risks of exposure and the availability of organic compatible practices and products.

Neonicotinoids and Human Health

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 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." ^{2,3,4} In this context, both CDPR and EPA must recognize the common mechanism of toxicity among 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. ⁵ 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. ⁶

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. ^{7,8,9,10}

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.¹¹ 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."¹¹

Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), a pesticide is presumed to pose an unreasonable risk until reliable data demonstrate 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.^{12,13,14,15}

Neonicotinoid residues are detected in food and water, as well as in breast milk and baby food—jeopardizing the health of growing infants and children.^{16,17,18} Allowing the use of pesticide-treated seeds, with neonicotinoids or other chemical classes, adds to this exposure and enhances the associated risks.

The Food Quality Protection Act (FQPA), with its provisions that amend FIFRA and the Federal Food Drug and Cosmetic Act (FFDCA), is meant to regulate pesticide residues in food, but EPA has not applied the FQPA's child-protective provisions to neonicotinoids, even with the scientific data showing developmental harm. As the risks are too high, it is paramount that the public's health is safeguarded from unnecessary exposure to these harmful chemicals.

Ecological and Environmental Effects

Beyond Pesticides' comments in 2018 cited a section of the report by the Task Force on Systemic Pesticides (Worldwide Integrated Assessment) that states that the use of neonicotinoids "does not guarantee an increase of yield of the crops they are protecting, particularly in pollinated crops," and the use of neonicotinoids is "limited by the rapid development of resistance in target pests."¹⁹ Other research shows that neonics can lead to a decrease in crop yields by killing insects such as pollinators and natural predators of pests.²⁰ The doubtful effectiveness of neonicotinoids and threat to nontarget organisms highlight the need for safer practices that protect all organisms and the environment.

EPA's own non-pollinator assessments confirm that harm to nontarget organisms and systems from neonicotinoid exposures is ubiquitous. The agency identifies risks to aquatic insects, birds, and small mammals, coupled with significant harm to honeybees and other native bees. In particular, pesticide-treated seeds can be consumed directly by many birds and small mammals, causing acute toxicity and mortality. The risks from continued use of neonicotinoids far outweigh their perceived benefits. Reports of declines in bird populations,²¹ studies of the pervasiveness of these chemicals in the Great Lakes,^{22,23} and the loss of natural pollination services for all pollinator reliant crops underscore the imminent danger faced by the natural world.²⁴

Pesticide coatings can also enter bodies of water as runoff from agricultural areas. "Poisoned Waterways," a report from Beyond Pesticides, documents the persistence of neonicotinoids in U.S. waterbodies and the danger they cause to aquatic organisms, resulting in complex cascading impacts on the aquatic food web.²⁵ The report also highlights current regulatory failures of EPA aquatic standards, which continue to underestimate risks to sensitive species, due to a reliance on test protocols that do not reflect real-world exposures or susceptibilities. Additional studies show the effects of neonicotinoids in amphibians, algae, and farmland birds that threaten biodiversity.^{26,27,28}

Summary

Although pesticides are by definition harmful, and in the case of neonicotinoids do not meet regulatory standards, what contributes significantly to these adverse effects being "unreasonable" is the existence of an alternative—an organic production system—that does not harm human health, other species, or ecosystems and, in addition, helps to mitigate climate change. In all its decisions, both CDPR and EPA 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 to conduct an accurate assessment, compliant with the unreasonable adverse effects standard of FIFRA,²⁹ of the hazards associated with 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), 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.

We urge CDPR to reject the use of all pesticide-treated seeds and to adopt organic methods for agriculture and land management as the standard in judging acceptable risk. As EPA fails in adhering to FIFRA's statutory mandate and protecting all health and the environment, CDPR has the opportunity to set an example by eliminating 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.



BEYOND PESTICIDES

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

July 6, 2026

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

Re: DPR 26-001 Pesticide-Treated Seeds / Semillas Tratadas con Pesticidas

Dear Madam/Sir,

These comments are submitted on behalf of Beyond Pesticides. 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) proposed regulatory action regarding pesticide-treated seeds. The agency states: "DPR proposes to adopt section 6626.5 and amend sections 6000, 6147, 6691 and 6760 of Title 3, California Code of Regulations. The proposed regulatory action will add a definition for pesticide-treated seed; exempt pesticide-treated seeds from registration when they meet certain conditions specific to California; require the reporting of pesticide-treated seeds planted in California; and provide exemptions to regulatory requirements for the planting of pesticide-treated seeds when certain conditions are met."¹

This rulemaking is intended to harmonize CDPR's regulations with the U.S. Environmental Protection Agency's (EPA) regulation of pesticide-treated seeds "as pesticides exempt from registration under Title 40, Code of Federal Regulations (40 CFR) section 152.25(a),"¹ while also incorporating state-specific conditions. Beyond Pesticides and public health advocates view pesticide-related notification as an important aspect of transparency for the public, but this action does not address the root causes and risks of exposure and the availability of organic compatible practices and products.

Neonicotinoids and Human Health

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 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.”^{2,3,4} In this context, both CDPR and EPA must recognize the common mechanism of toxicity among 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.⁵ 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.⁶

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.^{7,8,9,10}

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.¹¹ 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.”¹¹

Under the *Federal Insecticide, Fungicide, and Rodenticide Act* (FIFRA), a pesticide is presumed to pose an unreasonable risk until reliable data demonstrate 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.^{12,13,14,15}

Neonicotinoid residues are detected in food and water, as well as in breast milk and baby food—jeopardizing the health of growing infants and children.^{16,17,18} Allowing the use of pesticide-treated seeds, with neonicotinoids or other chemical classes, adds to this exposure and enhances the associated risks.

The *Food Quality Protection Act* (FQPA), with its provisions that amend FIFRA and the *Federal Food Drug and Cosmetic Act* (FFDCA), is meant to regulate pesticide residues in food, but EPA has not applied the FQPA's child-protective provisions to neonicotinoids, even with the scientific data showing developmental harm. As the risks are too high, it is paramount that the public's health is safeguarded from unnecessary exposure to these harmful chemicals.

Ecological and Environmental Effects

Beyond Pesticides' comments in 2018 cited a section of the report by the Task Force on Systemic Pesticides (Worldwide Integrated Assessment) that states that the use of neonicotinoids "does not guarantee an increase of yield of the crops they are protecting, particularly in pollinated crops," and the use of neonicotinoids is "limited by the rapid development of resistance in target pests."¹⁹ Other research shows that neonics can lead to a decrease in crop yields by killing insects such as pollinators and natural predators of pests.²⁰ The doubtful effectiveness of neonicotinoids and threat to nontarget organisms highlight the need for safer practices that protect all organisms and the environment.

EPA's own non-pollinator assessments confirm that harm to nontarget organisms and systems from neonicotinoid exposures is ubiquitous. The agency identifies risks to aquatic insects, birds, and small mammals, coupled with significant harm to honeybees and other native bees. In particular, pesticide-treated seeds can be consumed directly by many birds and small mammals, causing acute toxicity and mortality. The risks from continued use of neonicotinoids far outweigh their perceived benefits. Reports of declines in bird populations,²¹ studies of the pervasiveness of these chemicals in the Great Lakes,^{22,23} and the loss of natural pollination services for all pollinator reliant crops underscore the imminent danger faced by the natural world.²⁴

Pesticide coatings can also enter bodies of water as runoff from agricultural areas. "Poisoned Waterways," a report from Beyond Pesticides, documents the persistence of neonicotinoids in U.S. waterbodies and the danger they cause to aquatic organisms, resulting in complex cascading impacts on the aquatic food web.²⁵ The report also highlights current regulatory failures of EPA aquatic standards, which continue to underestimate risks to sensitive species, due to a reliance on test protocols that do not reflect real-world exposures or susceptibilities. Additional studies show the effects of neonicotinoids in amphibians, algae, and farmland birds that threaten biodiversity.^{26,27,28}

Summary

Although pesticides are by definition harmful, and in the case of neonicotinoids do not meet regulatory standards, what contributes significantly to these adverse effects being "unreasonable" is the existence of an alternative—an organic production system—that does not harm human health, other species, or ecosystems and, in addition, helps to mitigate climate change. In all its decisions, both CDPR and EPA 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 to conduct an accurate assessment, compliant with the unreasonable adverse effects standard of FIFRA,²⁹ of the hazards associated with 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), 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.

We urge CDPR to reject the use of all pesticide-treated seeds and to adopt organic methods for agriculture and land management as the standard in judging acceptable risk. As EPA fails in adhering to FIFRA's statutory mandate and protecting all health and the environment, CDPR has the opportunity to set an example by eliminating 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,

A handwritten signature in black ink, appearing to read 'Sara' followed by a stylized, circular flourish.

Sara Grantham
Science, Regulatory, and Advocacy Manager

- ¹ California Department of Pesticide Regulation (2026) DPR 26-001 Pesticide-Treated Seeds / Semillas Tratadas con Pesticidas. Available at: <https://cdpr.commentinput.com/?id=HYKegrij3J>.
- ² Beyond Pesticides (2024) BP Comments on Neonicotinoids. Available at: <http://bp-dc.org/bp-comments-on-neonicotinoids-october-2024>.
- ³ Beyond Pesticides (2017) BP Comments Draft Human Health Risk Assessment for Imidacloprid. Available at: <https://www.beyondpesticides.org/assets/media/documents/imidacloprid%20HH2017comments.pdf>.
- ⁴ Kimura-Kuroda, J. *et al.* (2016) Neonicotinoid Insecticides Alter the Gene Expression Profile of Neuron-Enriched Cultures from Neonatal Rat Cerebellum, *International Journal of Environmental Research and Public Health*. Available at: <https://pubmed.ncbi.nlm.nih.gov/27782041/>.
- ⁵ Kimura-Kuroda, J. *et al.* (2012) Nicotine-like effects of the neonicotinoid insecticides acetamiprid and imidacloprid on cerebellar neurons from neonatal rats, *PLoS One*. Available at: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0032432>.
- ⁶ Cimino, A. *et al.* (2017) Effects of neonicotinoid pesticide exposure on human health: a systematic review, *Environmental Health Perspectives*. Available at: <https://pubmed.ncbi.nlm.nih.gov/27385285/>.
- ⁷ Gu, Y. *et al.* (2013) Reproductive Effects of Two Neonicotinoid Insecticides on Mouse Sperm Function and Early Embryonic Development In Vitro, *PLoS One*. Available at: <https://pubmed.ncbi.nlm.nih.gov/23922925/>.
- ⁸ Pan, C. *et al.* (2022) Prenatal neonicotinoid insecticides exposure, oxidative stress, and birth outcomes, *Environment International*. Available at: <https://www.sciencedirect.com/science/article/pii/S0160412022001064>.
- ⁹ Hafez, E. *et al.* (2016) The Neonicotinoid Insecticide Imidacloprid: A Male Reproductive System Toxicity Inducer-Human and Experimental Study, *Toxicology*. Available at: https://www.researchgate.net/publication/304540643_The_Neonicotinoid_Insecticide_Imidacloprid_A_Male_Reproductive_System_Toxicity_Inducer-Human_and_Experimental_Study.
- ¹⁰ Lonare, M. *et al.* (2016) Evaluation of ameliorative effect of curcumin on imidacloprid-induced male reproductive toxicity in wistar rats, *Environmental Toxicology*. Available at: <https://pubmed.ncbi.nlm.nih.gov/25758541/>.
- ¹¹ Sass, J., Donley, N., and Freese, W. 2024. Neonicotinoid pesticides: evidence of developmental neurotoxicity from regulatory rodent studies, *Frontiers in Toxicology*. Available at: <https://www.frontiersin.org/journals/toxicology/articles/10.3389/ftox.2024.1438890/full>.
- ¹² Wang, Y. *et al.* (2019) Unraveling the toxic effects of neonicotinoid insecticides on the thyroid endocrine system of lizards, *Environmental Pollution*. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0269749119349905>.

- ¹³ Caron-Beaudoin, E. *et al.* (2017) The use of a unique co-culture model of fetoplacental steroidogenesis as a screening tool for endocrine disruptors: The effects of neonicotinoids on aromatase activity and hormone production, *Toxicology and Applied Pharmacology*. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0041008X17303150>.
- ¹⁴ Terayama, H. *et al.* (2022) Effect of Neonicotinoid Pesticides on Japanese Water Systems: Review with Focus on Reproductive Toxicity, *International Journal of Molecular Sciences*. Available at: <https://pmc.ncbi.nlm.nih.gov/articles/PMC9570366/>.
- ¹⁵ Godbole, A.M. *et al.* (2022) Exploratory analysis of the associations between neonicotinoids and measures of adiposity among US Adults: NHANES 2015–2016, *Chemosphere*. Available at: <https://pmc.ncbi.nlm.nih.gov/articles/PMC9167792/>.
- ¹⁶ Craddock, H. *et al.* (2019) Trends in neonicotinoid pesticide residues in food and water in the United States, 1999–2015, *Environmental Health*. Available at: <https://link.springer.com/article/10.1186/s12940-018-0441-7>.
- ¹⁷ Chen, D. *et al.* (2020) Nationwide Biomonitoring of Neonicotinoid Insecticides in Breast Milk and Health Risk Assessment to Nursing Infants in the Chinese Population, *Journal of Agricultural and Food Chemistry*. Available at: <https://pubmed.ncbi.nlm.nih.gov/33146527/>.
- ¹⁸ Environmental Working Group (2023) Pesticides still found in baby food, but biggest toxic threats eliminated. Available at: <https://www.ewg.org/research/pesticides-still-found-baby-food-biggest-toxic-threats-eliminated>.
- ¹⁹ Beyond Pesticides (2018) BP Comments on Preliminary Neonicotinoid Assessments – Clothianidin, Imidacloprid, Thiamethoxam, Dinotefuran. Available at: <https://www.beyondpesticides.org/assets/media/documents/non-pollinator%20neonic%20comments-2018final.pdf>.
- ²⁰ Douglas, M.R., Rohr, J.R., and Tooker, J.F. (2014) Neonicotinoid insecticide travels through a soil food chain, disrupting biological control of non-target pests and decreasing soya bean yield, *Journal of Applied Ecology*. Available at: <https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/1365-2664.12372>.
- ²¹ *The Guardian* (2018) 'Catastrophe' as France's bird population collapses due to pesticides. Available at: <https://www.theguardian.com/world/2018/mar/21/catastrophe-as-frances-bird-populationcollapses-due-to-pesticides>.
- ²² Hladik, M. *et al.* (2018) Year-round presence of neonicotinoid insecticides in tributaries to the Great Lakes, USA, *Environmental Pollution*. Available at: <https://doi.org/10.1016/j.envpol.2018.01.013>.
- ²³ Oliver, S.K. *et al.* (2022) Pesticide Prioritization by Potential Biological Effects in Tributaries of the Laurentian Great Lakes, *Environmental Toxicology*. Available at: <https://setac.onlinelibrary.wiley.com/doi/full/10.1002/etc.5522>.

²⁴ Hatfield, R. *et al.* (2021) Neonicotinoid Pesticides Cause Mass Fatalities of Native Bumble Bees: A Case Study From Wilsonville, Oregon, United States, *Environmental Entomology*. Available at: <https://academic.oup.com/ee/article/50/5/1095/6305931>.

²⁵ Beyond Pesticides (2017) *Pesticides and You: Poisoned Waterways*. Available at: <https://www.beyondpesticides.org/assets/media/documents/bp-37.1-PoisonedWaterways-uncited3.pdf>.

²⁶ Flach, H. *et al.* (2024) Comparing the effects of three neonicotinoids on embryogenesis of the South African clawed frog *Xenopus laevis*, *Current Research in Toxicology*. Available at: <https://www.sciencedirect.com/science/article/pii/S2666027X24000227>.

²⁷ Narayanan, N. *et al.* (2024) Assessing the ecological impact of pesticides/herbicides on algal communities: A comprehensive review, *Aquatic Toxicology*. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0166445X24000225>.

²⁸ Lennon, R.J. *et al.* (2020) From seeds to plasma: Confirmed exposure of multiple farmland bird species to clothianidin during sowing of winter cereals, *Science of The Total Environment*. Available at: <https://www.sciencedirect.com/science/article/pii/S0048969720315692>.

²⁹ *Federal Insecticide, Fungicide, and Rodenticide Act* 7 U.S.C. §136 et seq. (1996).