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At Odds with International Regulatory Bodies, EPA Defines Away PFAS Pesticide Problem, Allows Widespread Contamination

EPA dismisses international scientific findings on PFAS and fluorinated compounds in allowing widespread pesticide use.

Washington, DC, December 3, 2025—In blasting news coverage of the U.S. Environmental Protection Agency's (EPA) decision to allow the use of new pesticides internationally defined as PFAS (per- and polyfluoroalkyl substances), Administrator Lee Zeldin has taken a decidedly partisan tone. Calling the criticism of EPA's decision "fake news from Democrats and their media allies," at the root of the issue is the classification of fluorinated chemical compounds (containing the element fluorine) that puts the agency at odds with the Organization for Economic Cooperation and Development (OECD), a voluntary standards-setting agency on social, economic, and environmental issues. EPA is out of step with OECD's position that single fluorinated carbon pesticides must be classified as PFAS. Beyond the classification of the fluorinated compounds are issues of hazards to health and the environment and cumulative risk from food, water, and occupational exposure, given the scientific findings tying the chemical to highly threatening adverse effects, including cancer.

The controversy erupted as a result of EPA's latest proposal to allow a new fluorinated pesticide to the list of four other similar compounds now widely available for use in homes and gardens, buildings, and agriculture. The newest pesticide proposed for EPA registration, epyrifenacil (agricultural weed killer), joins cyclobutrifluram (soil fungicide/nematicide), isocycloseram (household and agricultural insecticide), diflufenican (lawn and agricultural weed killer), and trifludimoxazin (agricultural weed killer), making a total of five PFAS pesticide proposals this year that have been associated with national and worldwide contamination of food, land, and water. Two of these, cyclobutrifluram and isocycloseram, have been approved.

"Instead of constraining the use of fluorinated pesticides—persistent and highly toxic compounds defined as PFAS internationally, EPA is opening the door to further threats to health with generational harm," said Jay Feldman, executive director of Beyond Pesticides. "The agency is allowing public and worker exposure and environmental contamination of food and water to chemical compounds that cause hormonal disruptions, developmental issues, and cancer, despite the availability of productive and profitable alternative practices and nontoxic products," he said.

In its news release last week on November 26, 2025, EPA "issued a comprehensive fact-check addressing dangerous misinformation circulating about EPA's recent pesticide approvals" that, according to health and environmental advocates, continues to deceive the public about the true risks for health and the environment from petrochemical pesticides including, but not limited to, per- and polyfluoroalkyl substances (PFAS). *See Beyond Pesticides' previous coverage here and here.*

When a Chemical is Classified as PFAS
In its argument, EPA is ignoring the widely accepted definition of PFAS, supported by scientists, through OECD, which works with 38 member nations, including the U.S., to foster international cooperation. A Beyond Pesticides' *Daily News* post, entitled Artificially Narrow EPA Definition of PFAS Mischaracterizes Widespread Threat to Health and Environment, cites broad scientific agreement on EPA's failure to accurately address PFAS pesticides, also known as "forever chemicals" due to their persistence. The definition of PFAS used by OECD encompasses a wide variety of fluorinated compounds 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*. 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.

Risks of PFAS Exposure
An EPA webpage states, "PFAS have been linked by EPA itself to an increased risk of a host of health effects, including decreased fertility, hypertension in pregnant people, increased risk of certain cancers (especially kidney cancer), developmental delays in children, hormonal irregularities, elevated cholesterol, reduced effectiveness of the immune system, and more." Beyond Pesticides, in previous comments and *Daily News* coverage, highlights these health threats, among others.

From epigenetic to immunotoxic effects, there is a wide range of health implications with PFAS exposure. Because of their ubiquitous use, studies report that PFAS compounds are detectable in infants, children, and pregnant women. 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. Therefore, PFAS are detectable in almost all of the U.S. population—disproportionately afflicting people of color communities—and have implications for human health.

Fluorinated Pesticides in General Threaten Health
Even if EPA does not accept all fluorinated compounds as PFAS, there is scientific evidence connecting fluorinated pesticides to negative impacts on health and the environment. While EPA claims that, "Extensive scientific evidence and public input demonstrate molecules with only one fluorinated carbon generally lack the persistence and bioaccumulation properties that are commonly associated with forever chemicals," independent peer-reviewed research shows both persistence and health effects with exposure to fluorinated chemicals. As stated in comments to EPA, Beyond Pesticides notes that fluorinated pesticides are a broad category of chemicals that encompass PFAS and contain very strong carbon-fluorine bonds that are more resistant to degradation. Also of concern is the creation of additional fluorinated degradates (breakdown products) that have the potential to be more toxic than the parent compound.

Cumulative Risk and Alternatives Not Evaluated by EPA, as Required By Law
Beyond Pesticides has urged EPA in its comments on fluorinated pesticides, which it says should be classified as PFAS, to deny registration of the newest proposed pesticide, epyrifenacil, and cancel or reject any active ingredient of similar fluorinated pesticide compounds. The organization maintains that EPA has failed to comply with the "unreasonable risk to man or the environment" standard in the *Federal Insecticide, Fungicide, and Rodenticide Act* (FIFRA), given the availability of cost effective federally certified organic alternatives, and the aggregate and cumulative risk standard of the *Food Quality Protection Act* (FQPA), which requires an assessment of fluorine from dietary and water exposure.

Additional science

- 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 (−CF3) or a perfluorinated methylene group (−CF2−) is a PFAS.

This definition of PFAS encompasses gases, pesticides, and pharmaceuticals, many of which can degrade to form additional PFAS, such as trifluoroacetic acid (TFA), that EPA does not include in its definitions.

- Research in *Pest Management Science* highlights that fluorinated molecules are often resistant to degradation, representing an environmental challenge with heightened risks to soil organisms. As the authors state, these chemicals are "suspected of being environmental contaminants and endocrine disruptors, although only a small number are currently monitored and regulated. However, due to limited epidemiological evidence, experimental toxicology studies, and mechanistic evidence, many of the specific functions, underlying mechanisms, and contributing factors remain poorly understood."

- A study this year in *Environmental Toxicology and Pharmacology* finds concentration-dependent results with fluorine-containing pesticide exposure in earthworms. The data shows exposure elevates reactive oxygen species (ROS), activating antioxidant enzymes and increasing lipid peroxidation and DNA damage biomarkers. Mitochondrial function also declines, with impairments in energy metabolism. Tissue damage within the epidermis, gut structures, and reproductive organs of the earthworms is also noted, showing biochemical stress as a result of exposure to fluorinated pesticides. All results were heightened at higher concentrations, indicating severe ecological threats.

- In 2020, fluorinated agrochemicals comprised about nine percent of the pesticide market, and have now reached almost 70 percent of newly-approved pesticides, according to a 2025 review in the *Journal of Agricultural and Food Chemistry*.

- Commentary in *Environmental Health Perspectives* showcases how between 2012 and 2018, EPA granted 223 of 229 waiver requests (97%) for immunotoxicity testing of pesticide active ingredients. The article states: "Troublingly, the number of active ingredients that are fluorinated or that meet the definition of PFAS has increased considerably from 2012 to the present—the very time period that the US EPA granted 97% of waiver requests for immunotoxicity study requirements. This suggests that fluorinated or PFAS active ingredients may be more likely to be immunotoxic than other types of active ingredients and that any associated immunotoxicity may not be accounted for owing to the lack of requirement for scientific study."