Introduction
Good morning, Mr. Chairman and members of the Committee.

Thank you for the opportunity to testify this morning.

My name is Varun Subramaniam, and I am a Science Analyst at the Environmental Working Group.

I hold a master's degree in health data science from the George Washington University's Milken Institute School of Public Health and a degree in environmental health science from the University of North Carolina at Chapel Hill Gillings School of Global Public Health.

My professional work involves applying data science techniques to issues of environmental health, with attention to chemical exposures.

EWG is a national environmental organization that has, for several decades, investigated the impacts of PFAS on public health and tracked PFAS detections in tap water.

EWG has published multiple peer-reviewed studies on PFAS exposure sources[1], including a 2024 peer-reviewed paper on PFAS pesticides[2].

Last month, we published a new analysis on the presence of PFAS on fruits and vegetables in the United States.

The Growing Threat of PFAS
PFAS pose serious health risks to the public.

According to the Environmental Protection Agency, PFAS exposure may lead to increased cholesterol, decreased fertility, developmental harm including low birth-weight, interference with the body's natural hormones and harm to the immune system.[3]

The agency also reports that PFAS have been linked to an increased risk of some cancers, including prostate, kidney, and testicular cancers[4].

PFAS exposure for children is particularly concerning due to increased sensitivity to the harmful effects of chemicals such as PFAS.

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[1] For example: Environ. Sci. Technol. Lett. 2017, 4, 3, 105–111, Environ. Sci. Technol. Lett. 2016, 3, 10, 344–350, https://doi.org/10.1016/j.envres.2022.115165
[2] Donley N, Cox C, Bennett K, Temkin AM, Andrews DQ, Naidenko OV. Forever Pesticides: A Growing Source of PFAS Contamination in the Environment. Environ Health Perspect. 2024 Jul;132(7):75003. doi: 10.1289/EHP13954. Epub 2024 Jul 24. PMID: 39046250; PMCID: PMC11268133.
[3] https://www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas
[4] https://www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas

PFAS Overexposure
We know from recent research that everyone is overexposed to PFAS[5].

In 2022, the National Academies of Sciences, Engineering, and Medicine assessed PFAS concentrations in human blood samples.

They found that 98% of samples had PFAS levels that warranted exposure reduction and screenings for various health disorders, including hypertension during pregnancy and breast cancer.

PFAS are frequently found in our tap water.

Food as a Primary Route of Exposure
What may surprise you is that our food, not our water, might be an even bigger source of PFAS exposure.

The general scientific consensus is that our food is a significant, if not primary, route of exposure.[6]

A 2020 study in *Environment International* concluded that dietary exposure from the ingestion of food and drinks was the "predominant exposure pathway" to PFAS.

How PFAS Enters our Diets
PFAS contaminates our food in many, overlapping ways.

First, PFAS that is used in food packaging can migrate into our food.

Second, sewage sludge that is contaminated with PFAS and used as a fertilizer can contaminate our food and the farm animals who are fed contaminated feed.

Third, irrigation water that is contaminated with PFAS can also be absorbed by crops and contaminate our food.

Fourth, and perhaps most directly, pesticides either made with PFAS as an ingredient or stored in containers that are lined with PFAS can contaminate our food.

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[5] https://www.atsdr.cdc.gov/pfas/hcp/clinical-overview/clinical-evaluation-management.html - 98% > 2 NASEM
[6] EPA limits, EFSA, https://www.nature.com/articles/s41370-018-0094-1

PFAS Pesticides on Produce
The presence of PFAS pesticides on our food is widespread.

Last month, EWG released a new study of PFAS residues on produce.

We analyzed testing data from the U.S. Department of Agriculture and found 31 different PFAS pesticides were detected on 30% of non-organic U.S. fruit and vegetables[7].

The most commonly detected pesticide on U.S. produce was fludioxonil–a PFAS fungicide.

Fludioxonil was found on 14% of all produce samples and on nearly 90% of peach and plum samples.

Peer-reviewed literature has linked fludioxonil exposure to hormonal disruption and has found evidence of reproductive toxicity.[8]

Why Are PFAS Used in Pesticides?
You might ask: why is PFAS used in pesticides?

PFAS can modify the attributes of pesticides, mainly conferring increased molecular stability on the chemical.[9] This means that the pesticides can't be broken down easily and are highly heat-resistant.

PFAS are also known to increase membrane permeability, meaning that pests absorb the chemical faster and can be immobilized more efficiently[11].

Alternatives to PFAS Pesticides
Farmers have alternatives to pesticides made with PFAS.

There are effective options available to manage insects and weeds without relying on PFAS pesticides.

Biological controls, such as biopesticides or those derived from entirely biological sources, are popular alternatives to PFAS pesticides.

The menu of pesticides available to farmers is large and ever-growing, with new pesticide active ingredients and products coming to the market each year.

There are more than 90,000 pesticide products registered with the EPA, comprising over 800 active ingredients. Of these, about 350 active ingredients are approved for use on food crops.

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[7] https://www.ewg.org/foodnews/pfaspesticides.php
[8] https://www.sciencedirect.com/science/article/pii/S0278691518308391
[9] https://pmc.ncbi.nlm.nih.gov/articles/PMC11268133/

Just 66 of these active ingredients are PFAS.

According to the U.S. Geological Survey, less than 1% of all the pesticides, by volume, used in the state of Vermont are pesticides that include PFAS as an ingredient.

The Hidden PFAS Around Us

Another concerning characteristic of these chemicals is that most PFAS pesticides ultimately break down into other PFAS like trifluoroacetic acid, or TFA.

TFA can persist in the environment for hundreds of years and levels are increasing in soil, water, plants, plant based foods, and human bodies[10].

It's not just the PFAS pesticides that can last for years and harm health – they are also precursors to other chemicals that will outlast us by centuries.

Conclusion

In summary, we are all exposed to PFAS. Many of us have levels of PFAS in our blood that pose serious health risks.

Our food is a significant source of our exposure to PFAS.

The food we eat is contaminated through: PFAS used in food packaging, PFAS in sewage sludge used as fertilizer, contaminated irrigation water, and pesticides either made with PFAS or stored in containers lined with PFAS.

Most pesticides are made without PFAS, and new, better-studied pesticides are routinely approved for use by the EPA.

Less than 1% of the pesticides, by volume, used in Vermont are pesticides made with PFAS.

Thank you for allowing me to testify today about PFAS pesticides.

I am happy to answer any questions.

[10] https://pmc.ncbi.nlm.nih.gov/articles/PMC11562725/