

European citizens face increasing exposure to PFAS pesticides through fruit and vegetables

A study by PAN Europe and its members reveals a bitter truth: European citizens are increasingly exposed to cocktails of PFAS pesticides through their food. This subgroup of ‘forever chemicals’ are deliberately sprayed on food crops, making fresh fruit and vegetables a direct and systematic route of exposure for consumers. The findings raise serious environmental and human health concerns. In response, PAN Europe urgently calls for a ban on all PFAS pesticides.

Key insights of the study include:

- Residues of 31 different PFAS pesticides were detected in fruit and vegetables in the EU between 2011 and 2021;
- The number of fruit and vegetables containing residues of at least one PFAS pesticide in the EU has tripled in 10 years;
- In 2021, European-grown fruits such as strawberries (37%), peaches (35%) and apricots (31%) were particularly contaminated, often containing cocktails of three to four different PFAS in a single fruit;
- The Netherlands, Belgium, Austria, Spain, Portugal and Greece are the leader producers of PFAS-contaminated food within the EU, while countries such as Costa Rica, India and South Africa are for the EU the main exporters of high-PFAS laden food.

Per- and polyfluoroalkyl substances or PFAS, known as “forever chemicals” because of their exceptional persistence, stand among the greatest chemical risks nowadays, for humans and the environment¹. They pollute water resources and accumulate in soils, food crops and living organisms, including humans. The limited evidence available indicates a range of human health and environmental effects linked to exposure. Our report shows that European agriculture contributes to this PFAS legacy. PFAS have been either deliberately introduced by industry into pesticide products with the addition of a few fluorine atoms to increase their effectiveness, or result as breakdown byproducts, such as the water pollutant trifluoroacetic acid (TFA). Farmers are generally unaware that they are spraying ‘forever pesticides’ on their crops. It is not mentioned on the label.

“Our study reveals a deliberate, chronic and widespread exposure of European consumers to cocktails of PFAS pesticides in fruit and vegetables” states Salomé Roynel, Policy Officer at PAN Europe. “When zooming in on the most detected PFAS pesticides, evidence about their persistence and their toxicity to human health is already well documented, including risks to unborn children, brain damage, disruption of the endocrine system and cancer. Moreover, the impact of pesticide mixtures is simply not investigated”² she adds.

The fact that most residues detected in the study were under the Maximum Residue Limits (MRLs) does not clear the concerns. Although required by law, MRLs for pesticides are set without assessing the cocktail effects arising from a combined exposure to several chemical substances. This lack of consideration for the overall level of exposure of consumers to

¹ [Emerging chemical risks in Europe — ‘PFAS’ — European Environment Agency \(europa.eu\)](#)

² It is not known if these PFAS pesticides possess the extreme toxicity of ‘heavy PFAS’ but their persistence and toxicity cannot be ignored. While the limits for ‘heavy PFAS’ are regulated in parts of micrograms per kg of food, PFAS pesticides are permitted in parts per milligrams per kg of food—a thousandfold difference.

Pesticide Action Network (PAN Europe) is a network of NGOs working to reduce the use of hazardous pesticides and have them replaced with ecologically sound alternatives. We work to eliminate dependency on chemical pesticides and to support safe sustainable pest control methods. Our network brings together over 45 consumer, public health and environmental organisations and women’s groups from across Europe.



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chemicals means that MRLs are set too high, underestimating the risks, particularly from persistent pesticides such as PFAS.

“PFAS pesticides are absolutely not necessary to grow crops. They are an easily avoidable source of PFAS pollution. Maintaining PFAS pesticide approvals in the EU leads to the intentional exposure of citizens to PFAS residues day after day, despite the calls from the medical community for a complete phase-out.”

In 2020, the EU pledged to ban all unnecessary PFAS in Europe, but PFAS pesticides were left out of the proposal on the false assumption that they are already sufficiently regulated under the EU Pesticides Law. Our recently published investigation³ has already revealed the contrary.

Angeliki Lysimachou Head of Science and Policy at PAN Europe highlights “The approval of PFAS pesticides, often applied in mixtures, highlights significant shortcomings in both EU and national pesticide assessments. It demonstrates a disregard for EU law, allowing the use of pesticides that may harm human and animal health, as well as the environment, in our food production. The persistence of these PFAS pesticides, along with their intrinsic toxic properties, should have led to their swift ban”.

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The study focuses on fruit and vegetables grown in conventional agriculture (i.e. non-organic). It is based on official monitoring data of pesticide residues in food from Member States, which were randomly sampled to accurately reflect a representative exposure of EU consumers. The analysis was carried out at European level (following aggregation of all national data), as well as at the level of 8 different Member States (Austria, Belgium, France, Germany, Greece, Hungary, the Netherlands, Spain). The report presents the study results. It is published in collaboration with Ecocity, Ecologistas en Acción, Magyar Természetvédők Szövetsége (Friends of the Earth Hungary), Générations Futures, Global 2000 (Friends of the Earth Austria), PAN Germany, PAN Netherlands and Nature & Progrès Belgique.

[Briefing, Toxic Harvest: The rise of forever pesticides in fruit and vegetables in Europe](#)
[Report, Toxic Harvest: The rise of forever pesticides in fruit and vegetables in Europe](#)

Further readings

[Report “Europe Toxic Harvest: Unmasking PFAS pesticides authorised in Europe”](#)

[CropLife's Misleading Claims on PFAS Pesticides](#)

Contact:

- Salomé Roynel, Policy Officer, salome@pan-europe.info, +32 2 318 62 55
- Angeliki Lysimachou, Head of Science & Policy, angeliki@pan-europe.info, +32 2 318 62 55
- Tjerk Dalhuisen, Communications Officer, tjerk@pan-europe.info, +31 614699126

³ [Europe's Toxic Harvest: Unmasking PFAS Pesticides Authorised in Europe | PAN Europe \(pan-europe.info\)](#)

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