



The impact of pesticides on biodiversity

The European food production relies too much on the use of dangerous chemicals. This comes along with a serious backdrop: we are destroying Europe's habitats and species. This loss of biodiversity threatens essential benefits - such as pollination, pest control, and soil health - which are crucial to agriculture and food production.

The proposal for a new EU law to cut by half the use of pesticide was abandoned over concerns related to food security and yields loss. However, scientific expertise clearly shows that maintaining the current agricultural system is what poses the real threat to food security¹.

This factsheet presents key facts about biodiversity and the role of pesticides.

Biodiversity is collapsing at an unprecedented rate: over the last four decades, Europe has seen a 60% decline in farmland bird populations² and at least 70% decline in insect populations³, including pollinating insects and pest predators. Pesticides are a major driver of this decline. Pesticides are detrimental to soil organisms, which represent a major part of global biodiversity and are essential for healthy ecosystems functioning⁴

Pollinators are essential for many crops in Europe: In the EU, up to 84% of crops at least partially depend on insect pollination⁵. However, an assessment across the EU found a deficit of pollinators on half of cultivated land⁶. This crash in the pollinator population can lead to reduced crop yields and quality.

Amphibians and bats are threatened: 25% of amphibian populations in Europe are under threat, with pesticides playing a major role in their decline. Bats, another key predator of pests, are also affected⁷.

Pesticides affect all ecosystems: Direct and indirect pesticide impacts are found across terrestrial, aquatic and marine ecosystems, causing harm to their species and habitats⁸. For example, pesticide drift has been linked to over 50% reductions in diversity of wild plants within 500 m of fields, reducing resources for pollinators.⁹

Pesticide contamination is widespread: In 2020, one or more pesticides were detected above concerning thresholds in 22% of all monitoring sites in European rivers and lakes¹⁰. A 2019 study found pesticide residues in 83% of agricultural soils¹¹.

Pesticide contamination can become more harmful when combined: Pesticides appear in millions of different combinations in varying concentrations in our food and environments. There is a growing body of evidence that pesticides can interact to become more toxic, a phenomenon known as the 'cocktail effect'¹².

Risk assessments fall short: current pesticide risk assessments do not account for the cumulative and synergistic impacts of pesticide use. Risk assessments are also often based on tests with only one species, the honeybee, which are not representative of broader biodiversity.

The destruction of biodiversity threatens food security: by providing many vital ecosystem benefits, a rich biodiversity makes food systems more resilient to shocks and stresses, including those caused by the climate crisis. By driving the collapse of biodiversity, pesticide use provokes cascading effects with potentially severe consequences to food security¹³.



It is high time for public policies to steer the transition and support farmers towards more sustainable food systems, which benefit and protect farmers, people and nature alike.



The good news is that phasing out harmful pesticides is possible:



Science shows that it is possible to feed Europe without harmful pesticides.¹⁴



Agroecological farming offers a path for the necessary transition away from pesticide use, by working with nature, not against it. A transition to agroecological practices, including intercropping and crop diversification, increases biodiversity, improves soil health and builds greater resilience to pests, diseases and changing climatic conditions.¹⁵




In addition to their benefits for biodiversity and soil quality, these practices have also been shown to preserve crop productivity and farm profitability¹⁶.





We recommend to prioritise the following:

- 1 Fully and ambitiously implement the Sustainable Use of Pesticides Directive**, to effectively protect citizens, the environment and biodiversity against harms of pesticides. Integrated Pest Management must be fully implemented and independent advisory systems made accessible, ensuring that pesticides are truly used only as a last resort.
 - 2 Fully and ambitiously implement the Pesticide Regulation (EC) No 1107/2009 Close the gaps in pesticide risk assessment** and implement the recommendations of the PEST Committee on the EU pesticide authorisation procedure¹⁷. Apply the precautionary principle, and **immediately ban** toxic pesticides¹⁸.
 - 3 Redirect CAP funding** to ensure the transition away from pesticides use and towards farming practices that work with nature.
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PAN Europe strives to eliminate hazardous pesticides in Europe, and replace pesticides by ecologically sound alternatives. PAN Europe is an expertise-based organisation, relying on science and engaging with national member and EU organisations, scientists, policy-makers, farmers and other stakeholders.

<https://www.pan-europe.info>



Friends of the Earth Europe campaigns for environmentally sustainable and socially just societies, unites more than 30 national organisations with thousands of local groups, and is part of the world's largest grassroots environmental network, Friends of the Earth International.

www.friendsoftheearth.eu



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- 18] In priority pesticides which are carcinogens, mutagens, toxic for reproduction, endocrine disruptors, neurotoxic, PFAS pesticides, persistent bioaccumulative and toxic (PBT), very persistent and very mobile (vPvM) and persistent, mobile and toxic (PMT) should be banned immediately. No pesticides should be approved if there is uncertainty about the risks for human health and the environment.