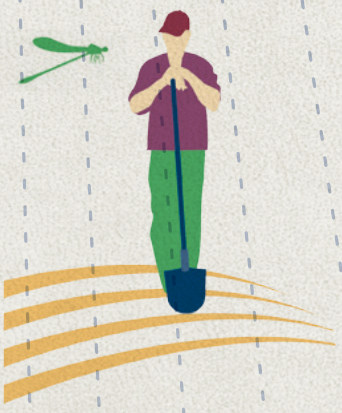
FACTSHEET

The impact of pesticides on people's Health

We are exposed to a cocktail of pesticide residues on a daily basis. They are present in dust, water and food. We find them far beyond agricultural areas.They are designed to kill insects, fungi and undesirable plants, but also interact with our cells and organs. They are a major cause of the collapse of biodiversity and are also harmful to human health.

Chronic exposure to pesticides has been linked to increased risks of a wide variety of diseases[1], including:

- **Various types of cancers** (blood, breast, ovarian, prostate and brain)
- **Respiratory diseases** (asthma, chronic obstructive pulmonary disease)
- **Neurodegenerative diseases** (Parkinson's, Alzheimer)
- **Developmental delays in children and cognitive impairments**
- **Cardiovascular diseases**
- **Infertility or birth malformations**
- **Acute intoxication**
- **Weakening of our immune system**
- **Negative impact on our gut microbiome**



Citizens are permanently exposed to pesticides

- A recent test measured pesticide residues in 625 samples across a wide range of environments in 10 EU countries. 100% of **air** samples, 100% of **indoor dust** samples, 100% of **water** samples contained mixtures of pesticide residues. Sixty three percent of **crop** samples contained at least one pesticide residue and 89% contained mixtures of pesticide residues[2]. Many of these pesticides are suspected of causing cancer, to disrupt the hormone system, toxic to reproduction or neurotoxic.[3-4]
- A large-scale human biomonitoring survey showed that 84% of citizen's urine samples contained at least 2 pesticide residues.[5]
- Pesticides harm biodiversity, ecosystems and their functions, which are essential to human health and well-being.[6]

Some citizens are extra vulnerable

Farmer and their families, farmworkers and rural citizens

Farmworkers, farmers and their families, and citizens in rural areas are particularly exposed to pesticides.They show higher concentrations of pesticides and associated genotoxicity in their blood. Farmers working with pesticides have a higher risk for health issues such as blood cancers, prostate cancer and Parkinson's disease[7]. Parkinson's disease is recognized as an occupational disease for farmers in France, Italy and Germany. France has also recognised haematological malignancies and prostate cancer as occupational diseases for farmers.

Children and pregnant women

Children are particularly vulnerable to pesticides. Their organs, nervous system and blood-brain barrier are still developing both prenatally and after birth. They consume more food and water relative to their body weight. Biomonitoring studies consistently show higher pesticide levels in children than in adults. Children crawl on floors, exposing them to indoor dust, and they play outside near polluted soil and water bodies[8].

Citizens need better protection

Contrary to common beliefs the EU' does not have the "most protective system in the world". **The all party Special Committee on the Union's authorisation procedure for pesticides (PEST) in the European Parliament confirmed many shortcomings in pesticide risk assessment and authorisation**. In 2023, only 15% of their recommendations had been sufficiently implemented[9].

Shortcomings include:

- The industry is closely involved in the risk assessment of pesticides, leading to **conflicts of interest** and undermining robust independent scientific assessments[10].
- Policy makers **fail to apply the precautionary principle**, which is taken up in EU pesticide legislation, and which obliges to prioritise the protection of human health and the environment if risks are uncertain.

- Pesticides known or presumed to be toxic[11] should be banned, but in practice very toxic pesticides remain on **the market for years** (see box example Chlorpyrifos).
- The **exposure to cocktails** of pesticide products throughout people's life, as well as to the combination with other chemicals (the 'exposome') **is not or insufficiently taken into account**. Also the risk assessment of co-formulants, which are added to active substances in pesticide products, is lacking.
- **Important pathways** such as dermal absorption and inhalation are **not or inadequately assessed.**
- **Neurotoxicological properties of pesticides are among the effects not properly assessed**[12], while experts speak of a 'Parkinson's pandemic' and point at the important links with pesticide exposure.[13]
- **'Maximum Residue Levels' (MRLs) allowed in food are not based on robust risk assessment**, but on calculations. The MRLs change over time, proving that citizens are continuously exposed to levels of pesticides which are later not considered safe (see box example Acetamiprid).

The trajectory of the **insecticide Chlorpyrifos** is one of many examples of the failing of current pesticide authorisation. The first studies indicating the developmental neurotoxicity of chlorpyrifos date from 1998. However, the pesticide was approved in the EU from 2006, and banned only in 2019, leaving citizens and the environment exposed to a highly toxic pesticide for years. Chlorpyrifos is linked to decreased IQ, loss of working memory, attention deficits, autism, thyroid hormone disruption, reproductive problems, metabolic disturbances, nerve damage, Parkinson's disease). Misleading conclusions on the studies by the industry contributed to the long delay[14]

For the **insecticide Acetamiprid,** which is a neonicotinoid and should be banned due to neurotoxicity indications, the MRL in apples was 0.1 mg/kg in 2007, 0.7mg/kg in 2011 and 0.4 mg/kg in 2019[15]. This year, EFSA proposed to significantly lower the MRLs in 38 products, due to health risks. For example, for apples, it was now suggested to change the MRL from 0.4 to 0.07 mg/kg[16].

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**[17].
- **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 increases biodiversity, improves soil health, captures carbon and builds greater resilience to pests, diseases and changing climatic conditions[18].
- In addition to their benefits for biodiversity and soil quality, these practices have also been shown to **preserve crop productivity and farm profitability**[19].

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 procedure[20]. Apply the precautionary principle, and immediately ban toxic pesticides[21].

3. **Redirect CAP funding** to ensure the transition away from pesticides use and towards farming practices that work with nature.

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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