

FARMING
WITH
NATURE?



OR
FARMING
AGAINST
NATURE?



TACKLING TOXIC MYTHS ON PESTICIDES:

WHY PESTICIDES ARE NOT THE ANSWER TO FOOD SECURITY

Key policy targets to reduce pesticide use, included in Europe's Farm to Fork strategy, are being challenged by vested corporate interests seeking to prolong access to the European market¹. The agroindustry and proponents of industrial agriculture are using the war in Ukraine as an excuse to lobby to extend the use of toxic pesticides in Europe and undermine the proposal for a new EU Pesticides Regulation with mandatory targets for pesticide reduction². They argue that reduced pesticide-use will add to the supply challenges created by the war because it will result in lower yields and higher prices³.

Arguments to continue using pesticides would do little to boost global food supplies, but would instead be disastrous for nature, and would undermine efforts to ensure the sustainability of food production in the European Union (EU).

¹ See for example Desmog article [How Big Ag is Delaying Sustainable Farming in Europe](#), December 2022

² See [Copa and Cogeca lobby minutes](#)

³ See [CropLife Europe: https://croplifeurope.eu/press-releases/-farm-to-fork-it-is-time-to-listen-to-what-the-data-says/](https://croplifeurope.eu/press-releases/-farm-to-fork-it-is-time-to-listen-to-what-the-data-says/)

In this briefing we seek to detoxify industry's narrative around the use of pesticides and set the record straight on the industry's false claims.

1 WE CAN FEED THE WORLD WITHOUT USING PESTICIDES

The agroindustry claims that food production in Europe will decline, and that we cannot produce enough food globally without using pesticides⁴. They argue that the war in Ukraine would lead to food shortages in Europe. **While Russia's invasion of Ukraine has affected global food supplies, Europe has not experienced food shortages.** Europe is a net exporter of agricultural products⁵, and is self-sufficient in many crops.

Experts have shown that **synthetic pesticides are not necessary to feed the world**⁶. According to a UN report, "implementing the right to adequate food and health requires proactive measures to eliminate harmful pesticides"⁷.

Eliminating pesticide-use is an essential part of shifting to a more sustainable model of food production. Integrated pest management systems⁸ or low-pesticide production systems such as agroecology or organic farming can in some cases generate yields that are similar to industrial-type production systems for some crops⁹, while not causing the same levels of pollution in soil and water courses.

⁴See CropLife International: <https://pesticidefacts.org/topics/necessity-of-pesticides/>

Sustainable Farming in Europe, December 2022

⁵See eurostat statistics: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Extra-EU_trade_in_agricultural_goods

⁶See the European Commission study on the Drivers of Food Security

⁷United Nations General Assembly, Report of the Special Rapporteur on the right to food, 2017

⁸See text box p.2 for the definition of Integrated Pest Management

⁹See report by PAN Europe, Are pesticides needed to feed the world? 2017

¹⁰See the statement signed by more than 700 scientists: We need a food system transformation—In the face of the Russia-Ukraine war, now more than ever, 2022

¹¹See letter from scientists to the European Commission: <https://slakner-files.wordpress.com/2022/03/peer-2022-open-letter-war-in-ukraine-and-food-security.pdf>

¹²See for example the report by Oxfam International Debunking 10 myths about the global food system and what drives hunger, September 2022

¹³See FAO projections: <https://www.fao.org/worldfoodsituation/csdb/en/>

¹⁴See IPES-Food report "Another Perfect Storm", May 2022

¹⁵See Greenpeace report "What Europe's policy-makers must do to truly achieve food security", March 2022

¹⁶See Feedback EU report "No food to waste", September 2022

¹⁷See letter from scientists to the European Commission: <https://slakner.files.wordpress.com/2022/03/peer-2022-open-letter-war-in-ukraine-and-food-security.pdf>

Scientists are clear that Europe can only secure a sustainable food future in the long-term by greening our agricultural model¹⁰. Any further intensification of agricultural production, including through the continued use of pesticides, would result in damage to key ecosystem and biological processes that are essential for agricultural production, including healthy soil, clean water, crop pollination and pest control¹¹.

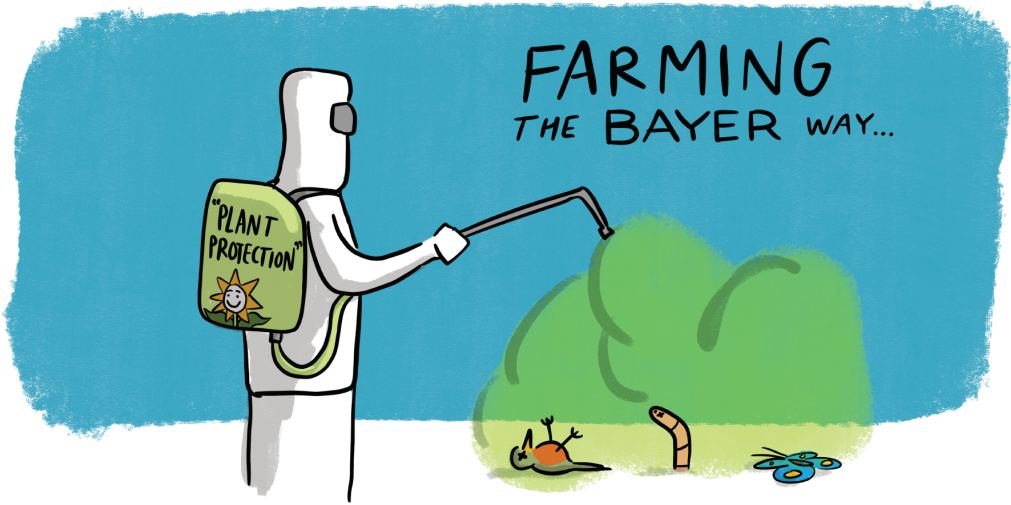
WE ALREADY PRODUCE MORE THAN ENOUGH FOOD

The idea that we need to produce more food to feed the world remains a standard argument used by the agroindustry, despite having been debunked over and over again¹². **We already produce more than enough food worldwide to feed everyone, and to feed even higher population**¹³. There is no shortage of food in the world but a problem of unequal distribution, and an inequality crisis that prevents people from affording healthy and nutritious foods. Financial speculation in commodity markets has exacerbated the current situation by pushing up prices, benefiting grain producers and commodity traders and exacerbating food shortages in some parts of the world¹⁴.

It is also time to question what the food grown is used for. In the EU, over 60% of farmland is currently used to produce feed for animals, many of which are kept in industrial-scale factory farms. Europe's farmland is also used to produce crops that are then burned for energy, with 12% of cereals like wheat or maize being used for industry and biofuels¹⁵. Last but not least, Europe's food system is hugely wasteful, with almost as much food wasted as was imported in 2021¹⁶. All of this represents a huge source of carbon dioxide emissions, aggravating the climate crisis.

Ramping up industrial food production and suspending environmental regulations will do nothing to help with the current situation, but would only exacerbate the climate and biodiversity crisis and move us further away from securing long term food security¹⁷.





2 ALTERNATIVES TO PESTICIDES ARE AVAILABLE

The pesticide industry argues that alternatives to pesticides are not currently available and still need to be developed¹⁸. Yet, **many alternatives to pesticide use already exist**. Organic agriculture does well without using synthetic pesticides¹⁹, and many farms in conventional agriculture have already managed to substantially reduce pesticide use using Integrated Pest Management²⁰.

Agroecology offers an alternative to pesticide-heavy intensive agriculture. Agroecological practices include crop diversification, planting crops that are adapted to the local environment, crop rotation, using natural preparations, and many other methods to promote beneficial organisms²¹. Many studies show that switching to diversified agricultural production can help to regulate crop pests while drastically reducing or eliminating pesticides, all without compromising yields²².

WHY FOCUSING EXCLUSIVELY ON YIELD DOES MORE HARM THAN GOOD

Maximizing crop yield should not be the main objective for food production since **yield is not in itself relevant for determining whether people are fed**²³.

The maximization of yields often results in a system where most benefits go to very few - in the form of profits - while causing irreparable social and environmental side effects - including huge external costs to society (see section 4)²⁴.

¹⁸ See: <https://pesticidefacts.org/topics/necessity-of-pesticides/>

¹⁹ See for example: https://agriculture.ec.europa.eu/system-files/2023-01/agri-market-brief-20-organic-farming-eu_en_1.pdf

²⁰ See for example PAN Europe's website on low-impact farming and result from the research project IPM works

²¹ See for example ECVC report "Pesticides Out", May 2018

²² See for example Tamburini et al. "Agricultural diversification promotes multiple ecosystem services without compromising yield." Science advances, 2020 and a recent study by INRAE "Protect crops by increasing plant diversity in agricultural areas, November 2022

²³ Foodwatch report "Locked-in pesticides", June 2022 and IPES Food report "From Uniformity to Diversity", 2016

²⁴ See Chaplin-Kramer, Chappell, & Bennett "Un-yielding: Evidence for the agriculture transformation we need", Annals of the New York Academy of Sciences, 2022

A study that modelled the impacts of a switch to agroecology across Europe found that it would **reduce greenhouse gas emissions from the agricultural sector by 40%, increase levels of biodiversity and protect natural resources**²⁵. Moreover, studies show that farmers that are using agroecological approaches also **benefit from higher returns and fairer income**²⁶.

AGROECOLOGY:

a system of food production based on ecological, social and political principles that value healthy and diverse agroecosystems, minimizing external inputs, secure livelihoods for producers, and nutritious food accessible to all²⁷

INTEGRATED PEST MANAGEMENT:

Integrated pest management (IPM) is a set of tools that farmers can use to substantially reduce the use of chemical pesticides. It is an iterative process that places preventative agronomic measures at the heart of pest control, with synthetic pesticides being used only as a very last resort²⁸.

3 FARMERS WOULD BENEFIT FROM THE TRANSITION – THE CURRENT SYSTEM IS NOT WORKING FOR THEM

While industry and some farming lobby groups argue that farmers cannot afford to stop using pesticides, their views do not speak for farmers everywhere. What the industry is in reality defending is a broken food system that destroys small and medium-scale farming and keeps food producers locked in unsustainable farming practices like pesticide use. Farmers and farm workers are also the **first impacted by serious illnesses linked to exposure to synthetic pesticides, like cancer and Parkinson's disease**²⁹.

A growing number of farmers **see dependence on the agroindustry (synthetic pesticides, seeds and fertilizers producers) and its products as part of the problem**³⁰. Many European farmers are starting to question the economics of a system that requires them to buy more and more costly inputs to produce food, and they are looking for alternatives.

Obtaining independent advice and knowledge about alternatives, as well as diversifying food production to access more local markets however does not always come easy, and many farmers therefore remain stuck in the pesticide/industrial treadmill. This is why **peer-to-peer exchanges and independent advisory services** are necessary to allow farmers to learn more and support them in developing alternative approaches.

In the last decades, publicly funded farm advisory services all over Europe have largely been replaced by private advisory services³¹. Some of these services are directly connected to pesticide companies, while others receive a percentage of the benefits made on pesticide sales after recommending their use.

²⁵ See Poux & Aubert "An agroecological Europe in 2050: multifunctional agriculture for healthy eating", September 2018

²⁶ See for example Nilsson et al. "Farm performance and input self-sufficiency increases with functional crop diversity on Swedish farms." Ecological Economics, 2022, Kerr, Rachel Bezner, et al. "Can agroecology improve food security and nutrition? A review." Global Food Security, 2021 and Van der Ploeg et al., "The economic potential of agroecology: Empirical evidence from Europe", 2019

²⁷ See also the FAO's 10 Elements of Agroecology, 2018

²⁸ See the paper by PAN Europe and IBMA "Integrated Pest Management: Working with nature" for more information

²⁹ See for example Gangemi et al. "Occupational exposure to pesticides as a possible risk factor for the development of chronic diseases in humans", Molecular medicine reports, 2016 and the following review on the health effects of pesticides on human health: <https://presse.inserm.fr/en/inserm-publishes-its-latest-collective-expert-review-on-the-health-effects-of-pesticides/43303/>

³⁰ See for example ECVC report "Pesticides Out", May 2018

³¹ See Foodwatch report "Locked-in pesticides", June 2022



**WE URGENTLY
NEED TO REDUCE
PESTICIDE-USE TO
RESPOND TO THE
NATURE CRISIS**

Europe is in the midst of a severe environmental crisis, with thousands of animal species and habitats at risk, undermining the natural resources we depend upon for our food and our wellbeing³². Experts have warned that intensive agricultural production is putting our future food supply at risk³³.



4 PESTICIDE-FREE FOOD DOES NOT NEED TO COST MORE

The agroindustry lobby claims that pesticide-free food will cost more, but it chooses to overlook the **hidden costs of pesticide use for our society**: the costs of cleaning up polluted water supplies, biodiversity loss, the impact on health and climate consequences, to name only a few.

Taxpayers, farmers and future generations inevitably pay and will pay these hidden costs, one way or another. A recent study from BASIC calculated that in Europe, **the costs directly attributable to pesticides (to be borne by society) amounted to €2.3 billion in 2017, which is twice as high as the net profits directly made by the industry** (nearly €0.9 billion that same year)³⁴. In the long run, these hidden costs (also called externalities) are also putting our entire food supply under threat³⁵.

Our industrial farming model is itself heavily subsidised by public policies. This is particularly the case of the Common Agricultural Policy (CAP), which represents a huge chunk of the EU budget and determines the funding priorities for food production. The CAP has so far mainly supported the intensification of agriculture to the benefit of agribusinesses and large-scale farms over small-scale food producers and nature³⁶.

The current model of unsustainably-produced cheap food also means farmers and farmworkers are not receiving a fair price for what they produce. We need to reform our food system so that farmers are properly remunerated for their work.

To get a fair comparison of costs, we need to shift subsidies away from carbon intensive agribusiness. We must instead invest in farming methods that do not destroy our environment and make healthy food more accessible and affordable to all.

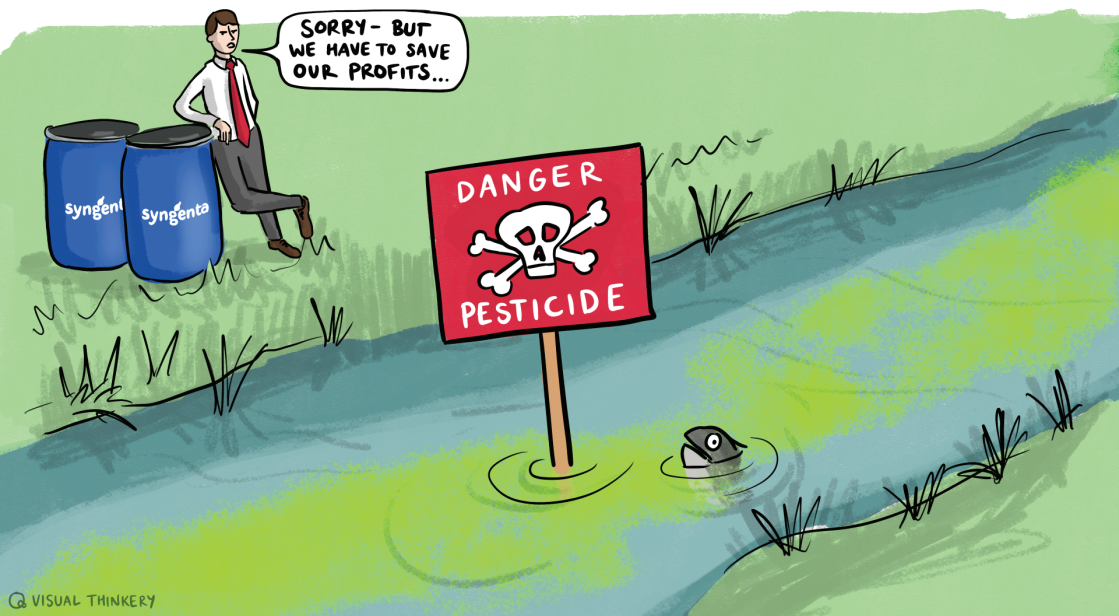
³² See report by the EEA: "Latest evaluation shows Europe's nature in serious, continuing decline", October 2020

³³ See for example reports by the FAO, IPCC and IPBES

³⁴ See report by Le Basic, "Pesticides: A model that is costing us dearly", November 2021

³⁵ See for example: Food and Agriculture Organization of the United Nations (FAO) "The future of food and agriculture: Trends and challenges", 2017.

³⁶ See for example our report "The Re-CAP: Does the EU's new farming policy promote climate justice?", 2022



5 REDUCED PESTICIDE USE DOES NOT MEAN MORE IMPORTED FOOD

Agribusiness lobbies argue that reducing pesticide-use in Europe will lead to more foods being imported³⁷, resulting in increased climate emissions and more pollution because the imported food will be grown to lower standards³⁸. Industry lobbyists have also been found to have funded academic studies to support their claims³⁹.

Independent studies have actually shown that Europe could turn from a net importer to a net exporter of food if it engaged in broad transition toward agroecology involving the whole food chain, from agricultural production systems to diets, including reducing food waste⁴⁰.

Moreover, experts have argued that it is misleading to suggest improving standards in Europe will simply move the problems caused by pesticide-use elsewhere⁴¹. Europe could show global leadership by fully implementing the pesticide reforms in the Farm to Fork initiative, raising the bar, rather than supporting a race to the bottom.

This argument is all the more hypocritical since the pesticide industry is at the same time lobbying to block legislations to stop the export of highly toxic pesticides that are banned in the EU⁴². The fact that the EU continues to produce these banned pesticides and export them to other countries has been widely criticized by civil society organizations and human rights experts as being an unacceptable double standard⁴³.

³⁷ See for example: <https://swiss-food.ch/en/articles/agricultural-production-in-the-eu-to-drop-by-20-percent>

³⁸ See: <https://www.foodingredientsfirst.com/news/reviewing-pesticide-cuts-eu-urged-to-scrap-reduction-targets-or-face-exacerbating-food-crisis.html>

³⁹ See CEO report "The pesticide industry's toxic lobbying tactics against Farm to Fork", March 2022

⁴⁰ See for example Poux & Aubert, "An agroecological Europe in 2050: multifunctional agriculture for healthy eating", 2018

⁴¹ See Desmog article "How Big Ag is Delaying Sustainable Farming in Europe", December 2022

⁴² See article by Public Eye <https://www.publiceye.ch/en/topics/pesticides/banned-in-europe>, September 2020

⁴³ See article from our Pesticide Atlas on imports and exports, 2022 and the joint statement signed by 326 NGOs and trade unions demanding a ban on the export of pesticides and other hazardous chemicals that are forbidden in Europe, December 2022

6 GMOS DO NOT REDUCE PESTICIDE USE



The agribusiness corporations and their lobbies claim that the new generation of genetically-modified crops (new GMOs or the so-called “new genomic techniques”) can help farmers reduce pesticide and fertilizer use, but the main companies behind new GMOs are actually the same companies producing pesticides. In fact, **the four biggest global pesticides corporations (Bayer, Syngenta, Corteva and BASF) also control the market for new GMOs.**

The same promises of pesticide reduction were made about the first generation of GMOs when they were introduced 20 years ago. But herbicide-tolerant crops are designed to survive being treated with herbicides. As the weeds

become more resistant to the herbicide, farmers found they needed to use more and more herbicide to obtain the same yields⁴⁴. Similarly, insects became increasingly resistant to the insecticides produced by GM insect-resistant crops, leading farmers to return to spraying more and more insecticides⁴⁵.

Based on the available evidence, new GM crops are unlikely to reduce pesticide use. Some currently in the pipeline are even designed to increase it⁴⁶. A new report by Foodwatch shows that new GMOs are a risky distraction from real sustainable solutions⁴⁷. A shift away from a corporate driven farming model towards agroecology is urgently needed.

CONCLUSION

Agribusiness lobby groups appear set on misrepresenting the evidence to persuade policy makers to put their profits ahead of action to protect people and the environment. The war in Ukraine does not reduce the need to act for the climate and for biodiversity - and a shift to a more sustainable food system is essential to do that. If anything, the war in Ukraine actually exposed the fragility of our current food system, which relies on just a handful of staple crops grown with energy-intensive chemical inputs.

While the agroindustry claims the opposite, it is clear that the current pesticide-dependent

and energy intensive industrial agriculture is not the solution to feed the world. It is in fact destroying the very foundations that make food production possible: agricultural diversity, healthy soils, and a stable climate.

Transitioning towards agroecology is essential to enable us to grow food without harming the environment and our health, and policy reforms are needed to drive this transition. This includes supporting farmers to produce healthy, affordable food that is pesticide-free, and to ensure a fair price for farmers and a decent salary for farm workers. With the right policies in place, the EU can move away from relying on toxic chemicals and set the transition towards a more sustainable food system.

The new EU Pesticides Regulation is an opportunity for change. The EU must follow the call of citizens⁴⁸ and set the direction towards a pesticides-free Europe, supporting farmers in their transition towards agroecology and rejecting false promises like new GMOs. Urgent action is needed to protect our future ability to produce food.

⁴⁴ See for example Benbrook, “Trends in glyphosate herbicide use in the United States and globally”, Environmental Sciences Europe, 2016

⁴⁵ See for example Tabashnik, Bruce E., et al. “Insect resistance to Bt crops: evidence versus theory” Nature biotechnology, 2008

⁴⁶ See our report “New GMOs and pesticides reduction: fast-track to failure”, May 2022

⁴⁷ Foodwatch, “New Genomic Techniques (NGTs) won’t reduce pesticide use in the EU”, February 2023

⁴⁸ More than a million Europeans signed the Save Bees and Farmers Citizens’ Initiative in which they demand a reduction of synthetic pesticides of 80% by 2030, a gradual phase-out of synthetic pesticides in Europe by 2035, and strong support for farmers to transition towards agroecology



Friends of the Earth Europe

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

Authors:
Helen Burley and Clara Bourgin

Illustrations:
Visual Thinkery

Design:
Cris Cadano