

# foodwatch

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# PESTICIDE FREE EUROPE

Five steps to exit pesticides crop by crop

## IMPRINT

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## PESTICIDE FREE EUROPE

Five steps to exit pesticides crop by crop



The biodiversity crisis has worsened at an alarming rate. Despite the fact that, according to the European Environment Agency, **“agricultural intensification is one of the main causes of biodiversity loss and ecosystem degradation in Europe,”**<sup>1</sup> efforts to reduce the use of pesticides have been largely unsuccessful.

EU-wide use of pesticides has increased since the 1990s,<sup>2</sup> while the European Commission has abandoned its promise to halve the use of chemical pesticides, including the most hazardous ones.<sup>3</sup>

Pesticides are designed to interfere with the basic biological processes of living organisms, and pesticide use is associated with numerous adverse effects on human health. Many pesticides identified as probable carcinogens<sup>4</sup> and/or associated with other severe diseases have been approved and marketed.

Consumers across Europe are regularly exposed to pesticide residues. New analysis has revealed that 37% of all cereal samples, such as flour and bread across the EU, contain residues from 65 different pesticides.<sup>5</sup>

It is clear that we have to act now. New approaches to **stop the use of pesticides** are urgently needed in order to curb their negative impacts on human health, the environment and biodiversity. This paper outlines in five points how to phase out pesticides by adopting an innovative crop-by-crop approach.

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<sup>1</sup> Page 295  
[www.eea.europa.eu/soer/publications/soer-2020](http://www.eea.europa.eu/soer/publications/soer-2020)

<sup>2</sup> Page 18  
[www.foodwatch.org/fileadmin/INT/pesticides/2022-06-30\\_Pesticides\\_Report\\_foodwatch.pdf](http://www.foodwatch.org/fileadmin/INT/pesticides/2022-06-30_Pesticides_Report_foodwatch.pdf)

<sup>3</sup> [www.euractiv.com/section/agriculture-food/news/von-der-leyen-to-withdraw-the-contested-pesticide-regulation](http://www.euractiv.com/section/agriculture-food/news/von-der-leyen-to-withdraw-the-contested-pesticide-regulation)

<sup>4</sup> [www.degruyter.com/document/doi/10.1515/reveh-2022-0253/pdf](http://www.degruyter.com/document/doi/10.1515/reveh-2022-0253/pdf)

<sup>5</sup> **Dark Side of Grain**  
[www.foodwatch.org/fileadmin/INT/pesticides/2023-10-09\\_foodwatch\\_Report\\_Dark\\_Side\\_of\\_Grain.pdf](http://www.foodwatch.org/fileadmin/INT/pesticides/2023-10-09_foodwatch_Report_Dark_Side_of_Grain.pdf)

# 1 LOOK AT INDIVIDUAL CROPS

By taking a differentiated view of individual crops, the crop-by-crop approach can help to effectively reduce the amount of pesticides used without compromising agricultural productivity. It is important to begin with the crops where pesticide reduction is the easiest. Fortunately, many of the crops currently cultivated in Europe have the potential for pesticide-free production with relatively simple agronomic adjustments, like crop rotation and tillage, at little extra costs. This includes crops like cereals and maize, which constitute a significant proportion of EU agricultural area.

## Pesticide dependency of France, Germany, and the Netherlands<sup>6</sup>

France, Germany and the Netherlands have the highest consumption of synthetic pesticides in the EU.

France tops the list, selling about 67,000 tonnes annually between 2011-2020, due to its vast agriculture and viticulture. In France, out of 66.5 million pesticide treatments, over 50% target cereals, including wheat, barley, and triticale.<sup>6</sup>

Germany's annual sales have ranged from 28,000 to 35,000 tonnes since 1995. Wheat and barley alone account for 45% of pesticide use in Germany and more than 60% of the treated area.

The Netherlands, with its humid climate and dense specialty crops, has the highest per hectare pesticide use. Due to the specialization in crops like flowers and potatoes, winter wheat and spring barley contribute to less than 7% of pesticide consumption.

Source: Locked In Pesticide report.<sup>7</sup>

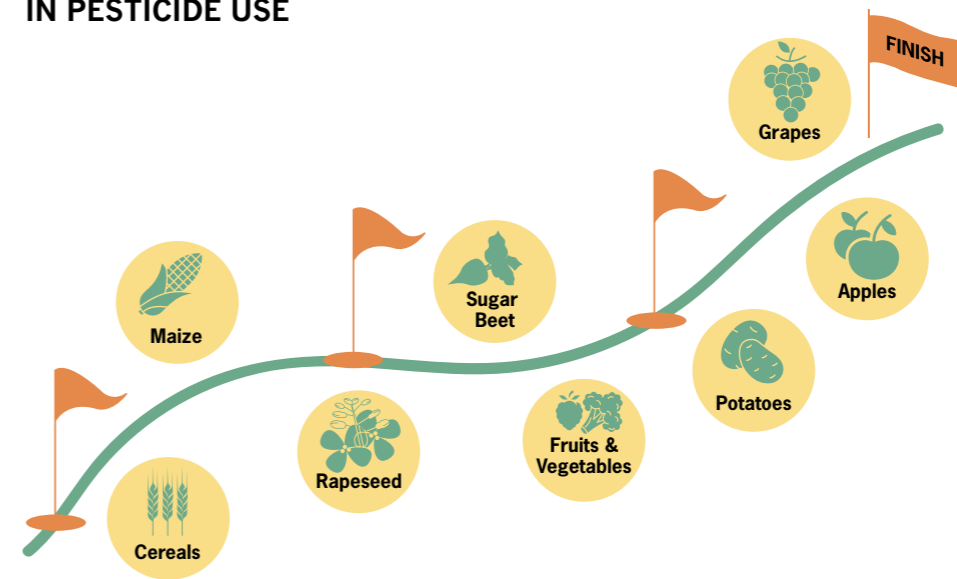
<sup>6</sup> Page 8:  
[www.foodwatch.org/fileadmin/-/INT/pesticides/2023-10-09\\_foodwatch\\_Report\\_Dark\\_Side\\_of\\_Grain.pdf](http://www.foodwatch.org/fileadmin/-/INT/pesticides/2023-10-09_foodwatch_Report_Dark_Side_of_Grain.pdf)  
<sup>7</sup> [www.foodwatch.org/fileadmin/-/INT/pesticides/2022-06-30\\_Pesticides\\_Report\\_foodwatch.pdf](http://www.foodwatch.org/fileadmin/-/INT/pesticides/2022-06-30_Pesticides_Report_foodwatch.pdf)

# 2 START WITH THE EASIEST AND LARGEST CROP

Approximately half of Europe's arable land is allocated to cereal cultivation, with winter wheat and maize occupying the largest expanses.<sup>8</sup> Cereals stand out as significant consumers of pesticides within the European Union. For instance, in Germany, wheat and barley alone contribute to 45% of pesticide usage, while in Denmark, cereals represent about 67% of pesticide application. Similarly, in France, roughly 50% of pesticide treatments target cereals such as wheat, barley, and triticale.<sup>9</sup>

By initiating pesticide reduction efforts with these crops, we can swiftly lessen overall pesticide usage. Farmers cultivating grapes and apples may require an extended transition period due to the unique challenges posed by specific pests or diseases associated with these crops. Nevertheless, even these agricultural products can progressively shift towards pesticide-free production. This transition can be facilitated through focused research efforts and the adoption of alternative pest management strategies.

## THE CROP BY CROP PHASE OUT PLAN CAN LEAD TO A LARGE REDUCTION IN PESTICIDE USE



A crop by crop plan provides a clear roadmap with specific objectives, milestones, and actions to progressively eliminate the use of pesticides. By focusing on individual crops (beginning with cereals) and applying targeted agronomic measures (like a pesticide tax), the transition to pesticide-free farming becomes possible.

<sup>8</sup> About 52,4 million hectares in 2020:  
[https://ec.europa.eu/eurostat/databrowser/view/APRO\\_CPNH1/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/APRO_CPNH1/default/table?lang=en)  
<sup>9</sup> Page 17:  
[www.foodwatch.org/fileadmin/-INT/pesticides/2023-10-09\\_foodwatch\\_Report\\_Dark\\_Side\\_of\\_Grain.pdf](http://www.foodwatch.org/fileadmin/-INT/pesticides/2023-10-09_foodwatch_Report_Dark_Side_of_Grain.pdf)

# 3 IMPLEMENT SPECIFIC MEASURES

## EFFECTIVE MEASURES TO REDUCE PESTICIDE USE

By implementing specific measures tailored to each crop, such as optimising crop rotation, promoting natural pest predators, and adopting resistant varieties, pesticide use can be significantly reduced or even eliminated.

Optimising crop rotation



Natural pest predators



Resistant varieties



## DID YOU KNOW?

The right crop rotation can reduce the need of pesticides to zero, as scientific experiments find.

“We tested a two-year cultivation of clover grass in organic and conventional farming. Result: we no longer needed pesticides! Instead: carbon storage, nitrogen from the air, CO<sub>2</sub> emissions close to zero.

And: grass clover is a forage plant that provides protein – goodbye imported soya.

We have suggested to the federal government to include grass clover in the organic rules for all farmers - so far without success”.

**Friedhelm Taube, agricultural researcher, University of Kiel, in Table Media.<sup>10</sup>**

<sup>10</sup> <https://table.media/berlin/news/agrarwende-die-kanzlerpartei-faellt-voellig-aus-2/>

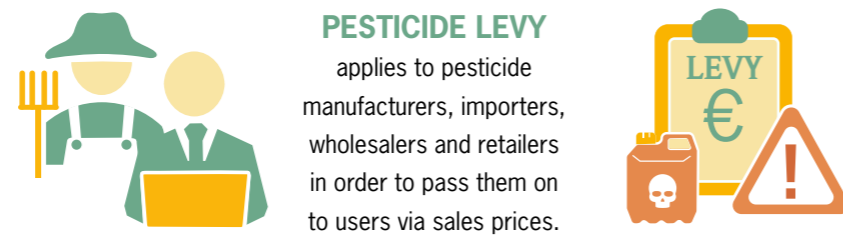
**POLITICAL MEASURES**

**Risk-based taxation on pesticides**

The most urgent political step is an **EU-wide introduction of a tax on pesticide sales, graded according to toxicity and efficacy**. This can effectively reduce pesticides by taxing harmful substances more heavily than less toxic ones. The Helmholtz Centre for Environmental Research has developed a proposal for effective taxation. The concept suggests a basic levy rate of 20 EUR for the maximum permissible application dose per hectare and year, which is then multiplied by a risk-based factor for the human toxicity of the active substances contained and by further additional factors for substitution candidates, home and small garden products, herbicides and insecticides (see Figure 1).

Figure 1:  
**CONCEPT FOR PESTICIDE LEVY**

A pesticide levy is a good way to effectively implement the polluter-pays principle, and encouraging sustainable behavior among producers, users, and consumers.



**Levy per kg or litre of pesticide product =**  
 $20\text{€} \times \text{Human Health Risk factor} \times 1,5 \text{ to } 4 \text{ additional risk factors}$

- 20€ Max. application dose/hectare in the approval process for plant protection products
- Risk potential for consumers of products and users of pesticides
- + 50% candidates of substitution  
+ 300% home and garden products  
+50% herbicides and insecticides

Figure 1:  
Helmholtz Centre for Environmental Research concept for a risk-based levy on plant protection products with modification

Denmark serves as an example of how a pesticide tax system has worked in practice. In mid-2013, its government implemented a tax reform based on the toxicity and environmental behaviour of pesticide products. As a result, farmers substituted highly toxic pesticides with less toxic pesticides. The amounts of pesticides sold decreased substantially.<sup>11</sup>

Implementing a pesticide tax at the national level is one option, but a system that is harmonised across the EU would ensure a level playing field and have a more significant effect. The European Commission has the authority to require taxation and can establish the specific details, as seen in existing directives such as the Energy Taxation Directive and the Tobacco Taxation Directive.

**Reform of the current pesticide authorisation**

Additionally, a reform of the current pesticide authorisation practice is needed. The current system is too weak. The authorisation of every third pesticide in the EU has long since expired,<sup>12</sup> yet the products continue to be sprayed on a massive scale, as the EU continues to extend the authorisation without a new risk assessment. All authorisations for pesticides should be reviewed for their absolute necessity.

<sup>11</sup> Page 70:  
[https://www.foodwatch.org/fileadmin/-INT/pesticides/2022-06-30\\_Pesticides\\_Report\\_foodwatch.pdf](https://www.foodwatch.org/fileadmin/-INT/pesticides/2022-06-30_Pesticides_Report_foodwatch.pdf)  
 and "Our analysis shows that the tax did indeed affect pesticide use, lowering the average load of the pesticides used by 16% between 2012 and 2017"  
<https://www.sciencedirect.com/science/article/pii/S0264837723000157>  
<sup>12</sup> "As foodwatch research shows, the authorisation for 135 of a total of 455 pesticides currently authorised in the EU has actually expired – and yet has been renewed again and again sometimes for years without EFSA finalising a new safety assessment."  
[www.foodwatch.org/en/glyphosate-just-the-tip-of-the-iceberg-30-percent-of-all-pesticides-are-approved-by-extension-without-new-risk-assessment](https://www.foodwatch.org/en/glyphosate-just-the-tip-of-the-iceberg-30-percent-of-all-pesticides-are-approved-by-extension-without-new-risk-assessment)

# 4 MAKING PESTICIDE-FREE THE NEW STANDARD



Supermarkets wield considerable influence over supplier production by dictating the products they offer. Therefore, retailers hold a responsibility for tackling the issue of pesticide use in cereal-based products.

However, an examination of 20 retailers in Germany, France, the Netherlands, and Switzerland indicates that while retailers frequently endorse labels and programs associated with biodiversity, they often lack a comprehensive strategy for reducing and phasing out pesticides in cereal production.

foodwatch calls on retailers to:

- **Make their entire range of cereal and grain products pesticide-free**
- **Implement a procurement policy for “pesticide-free” grain products;**
- **Ensure transparency throughout the process by publishing annual data on which products are produced pesticide-free and which ones are not.**

Following an analysis of pesticide strategies of major retailers in Europe, foodwatch has launched a campaign calling on supermarkets to stop selling bread produced using toxic pesticides.<sup>13</sup>

<sup>13</sup> [www.foodwatch.org/en/supermarkets-stop-the-toxic-harvest](http://www.foodwatch.org/en/supermarkets-stop-the-toxic-harvest)





# 5 GET INSPIRED BY POSITIVE EXAMPLES

Pesticide-free cereal production is possible and is already happening in Europe.

- Retailer Migros in Switzerland promotes pesticide-free production with various projects in collaboration with IP-SUISSE, a union of Swiss produce farmers. Jowa, the Migros bakery, is the largest grain buyer in Switzerland and processes a total of 85,000 tonnes of grain from IP-SUISSE producers every year.<sup>14</sup>
- Another example of pesticide-free bread is the bakery Maurer,<sup>15</sup> located in Germany, which has established itself as a pioneer in promoting sustainable and pesticide-free agricultural practices. The bakery grows over 900,000 square metres of arable land in the Rems-Murr district without pesticides, genetic engineering, or growth regulators.
- Another interesting example is Brocéliande,<sup>16</sup> a cooperative involving more than 200 breeders located in the western region of France. Amongst other products, they offer eggs from chickens that have been fed with pesticide-free grains.

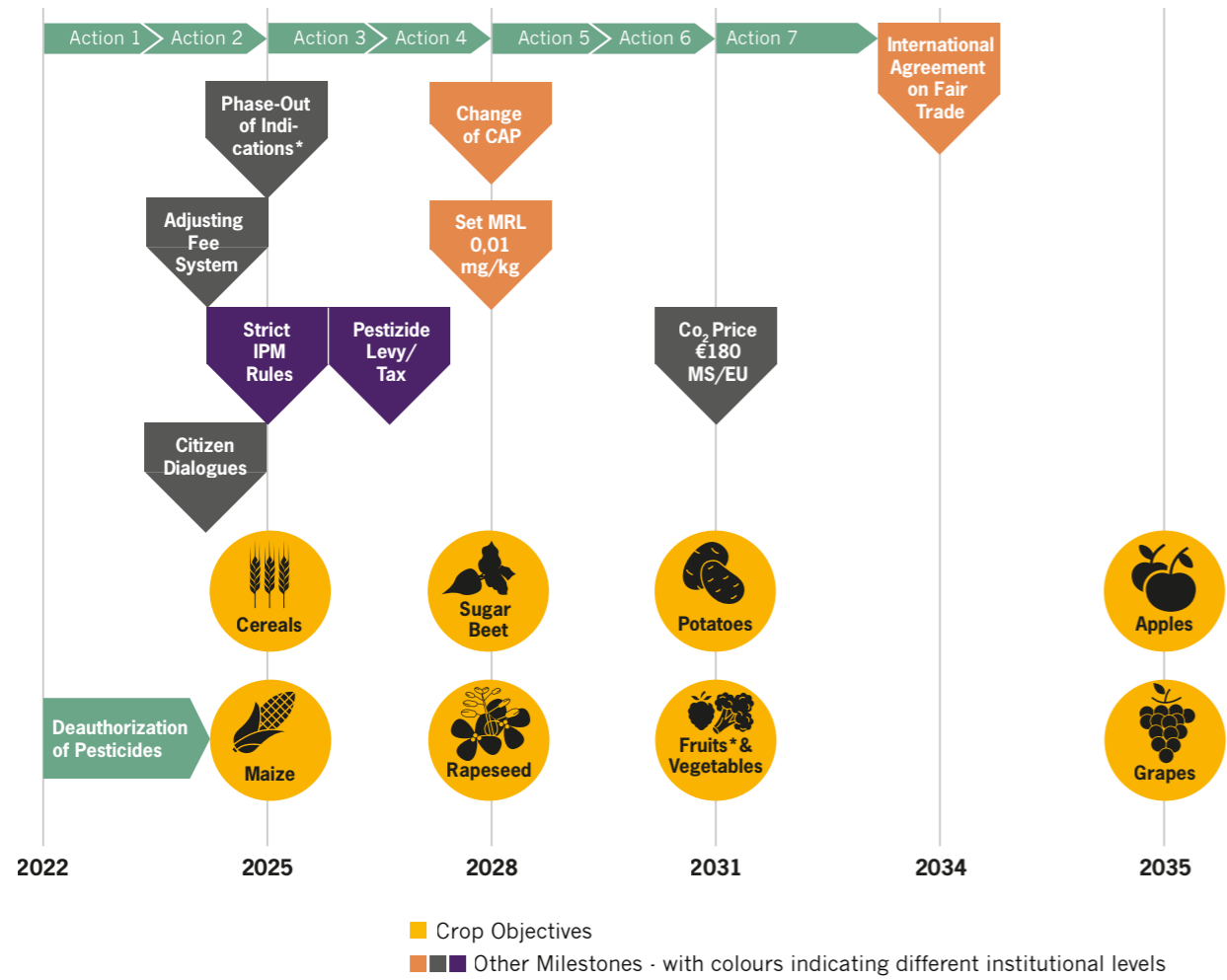
<sup>14</sup> <https://corporate.migros.ch/de/nachhaltigkeit/nachhaltige-produkte/unsere-fortschritte/getreide-huelsenfruechte/brot.html>

<sup>15</sup> <https://baecker-maurer.de/maurerkorn/>

<sup>16</sup> <https://www.broceliande.fr/fr/12-%C5%92ufs-poule-plein-air.html>



### MODEL OF A PESTICIDE-REDUCTION PLAN WITH CROP OBJECTIVES



An exit from pesticide use in the EU is possible, however another approach is needed. A crop by crop strategy would provide a way to deal with the most pesticide intensive and widely grown crops first. The learnings from this first move will enable the path for the next crops. Action must be taken by all actors, both in the market and at the legislative level, to ensure a rapid change and a pesticide-free Europe by 2035.



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