

PESTICIDES OUT!



Photo Credit: Chafar Machinery

Imidacloprid, thiamethoxam, clothianidin, glyphosate, cypermethrin and deltamethrin: their names allude to their barbarity and Europeans are questioning why we are using them. In 2017, more than one million citizens signed the European Citizens' Initiative « STOP Glyphosate », which aims to ban glyphosate marketing in the EU, reform the pesticide authorisation process and set targets to reduce their use. However, despite the availability of independent scientific data and awareness of their harmful effects, we continue to use pesticides more and more.

How did we get here? What are the causes and effects of pesticide use? What are the alternatives?

Here is a small peasant agroecology manual on how to phase out the use of pesticides.

After the Second World War, Europe had to rebuild itself and quickly ensure that there was enough food for its population. This is one of the reasons why there has been a trend towards agricultural industrialisation through the use of machinery and chemicals, which for many is a symbol of progress. To implement these ideas at European level, the CAP (Common Agriculture Policy) was created in 1962. Farmers were encouraged to produce more and to modernise. Today, these ideas persist and the rise of free trade has accentuated them. In this market-driven, productivist mindset, pesticides play a key role. In the short term, they guarantee a large harvest by enabling the sanitary control of increasingly large areas. As a result, we can produce more on less land.

It would seem, therefore, that the root causes of the problem have not yet been addressed, especially since the public debate tends to forget those responsible and only incriminate individuals. It blames farmers and peasants when, in reality, they are the victims of a system that relies on socially disastrous choices that seek to 'profit at any price'. These choices include encouraging an increase in production, producing ever-cheaper food, introducing free trade and economic competition etc. Faced with shrinking profit margins and increasing competition on the market, farmers are encouraged to secure an income by ensuring that their farms are productive and submitting to the production-oriented system that promotes ever more powerful machines, ever smaller land areas together with more and more fossil fuel and pesticide inputs. As a result, farmers have no choice but to spray large quantities of pesticides on their fields, which weakens their soil, harms their health and that of the surrounding population and threatens biodiversity. It is time for farmers to stop paying the price for harmful policies and that we recognise the real culprits.

In this document, we mean by pesticides all the products used for "plant protection" and which result from synthetic chemistry, synthetic biology, and/ or which enter the field of nanotechnologies.

REASONS TO ABANDON PESTICIDES



-See you tonight, honey. I am going to the field
-Good luck.

1

DANGERS TO HUMANS

Whether through cutaneous, oral or respiratory exposure, pesticides seep into our body. Indeed, according to the results of a study that Friends of the Earth conducted on urine samples from 18 European countries, "36% to 44% of samples"¹ showed traces of glyphosate. These results are alarming since exposure to pesticides, sometimes even at authorised doses, disrupt many of our vital functions and cause chronic diseases, particularly in children². The human body absorbs pesticides indirectly through the air, water and food; it absorbs them directly during their manufacture, storage and use. Finally, there are still a number of situations that have not been fully investigated yet, such as prolonged exposure to very low doses of pesticides or cocktail effects (combination of active substances and/or chemical adjuvants).

2

WEAKENING OF CULTIVATED PLANTS

When a farmer starts using pesticides, he/she is drawn into a vicious cycle. Cultivated plants weaken and are unable to protect themselves against pests and/or diseases. Their health declines, they get sick more often, another pest or disease affects them and they need chemical substances again...which benefits the industry!

1. https://www.foeeurope.org/sites/default/files/press_releases/

2. <https://www.panna.org/sites/default/files/2013-PAN-AP-POISONING-OUR-FUTURE-Children-and-Pesticides-Book-v8-WEB-lo-res.pdf>

3. EEA Report No 8/2012

4. <http://presse.inra.fr/Communiqués-de-presse/abeille-et-pollinisation-des-cultures>

5. <https://academic.oup.com/jcem/article/100/4/1245/2815065>

3

BIO-AGRESSORS ARE INCREASINGLY RESISTANT

Insects, fungi and pathogenic viruses develop resistance to pesticides through exposure to the chemicals that are supposed to kill them. Therefore, it is necessary to keep on increasing the amount of pesticide used or to find more efficient pesticides, which destroy most organisms that are not pathogenic and essential to the soil, plants and all living beings.

4

SOIL, WATER AND AIR POLLUTION

The extensive use of pesticides has resulted in widespread contamination of natural resources.

When spraying, 30% to 50% of the product does not reach its target and diffuses into the soil and the air. The soil becomes a reservoir of chemical substances and plays a major role in the transfer of pesticides. This also creates a significant risk that the environment and natural resources will become contaminated. In the end, weakened soil leads to an increase in greenhouse gas emissions because the soil can no longer store carbon.

In relation to water, a report³ from the European Environment Agency published in 2012 stated that "different pesticides contribute to the degradation of water bodies in 16 Member States, affecting 20% of groundwater and 16% of rivers and waters now classified as in poor chemical status". Next study scheduled for publication in 2018.

5

DECIMATION OF BEES AND POLLINIATORS

Essential to the pollination of crops and the protection of the ecosystem, bees are also in the thick of the action. The population of domestic and wild bees is decreasing dramatically across Europe. It is difficult to estimate the impact on wild bee populations, but beekeepers can confirm that their hives are emptying. Bees can suffer from acute contamination (by spraying) or chronic contamination (by gathering pollen from polluted crops). Depending on their degree of exposure to the chemicals, bees die or permanently lose the attributes they need to maintain their hives, such as their sense of direction, their ability to communicate, their memory, fertility, resistance to pathogens... The consequences of a decreased bee population are extremely harmful to biodiversity and crops, since pollinators are essential to ensure plant reproduction. In 2005, the role that pollinators play in food production was estimated at €153 billion i.e. 9.5% of global food production⁴.

6

COSTS THAT EXCEED PROFITS

-The environmental cost of lower pollination rates and soil deterioration.

-The cost of health deterioration.

-The regulatory cost of implementing measures to regulate the use of these chemicals and clean up the environment.

In 2015, a study⁵ estimated that the costs associated with the use of pesticides amounted to a colossal €157 billion per year for the EU.

THE DANGEROUS PESTICIDE AUTHORISATION PROCEDURE...

First and foremost, it is important to note that the availability of a product on the market does not mean that it is not dangerous to one's health, which can be the case for several reasons.

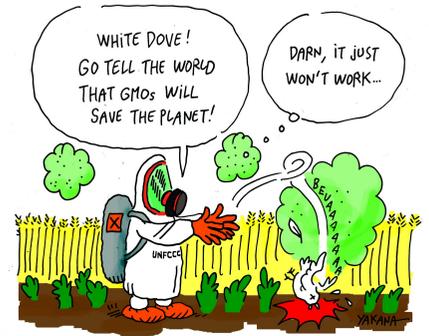
...BIAS CAUSED BY THE INDUSTRIAL SECRET

The authorization procedure is largely oriented towards the biotech-industry: the agency in charge of evaluating the safety of active substances, the European Food Safety Authority (EFSA), has been splashed by many conflicts of interest. In addition, the studies conducted by EFSA only verify the data provided by the industry and only cover the active substance of the pesticides. Nevertheless, the marketed finished product is composed of other substances, chemical adjuvants, which according to an independent scientific study⁶, would greatly increase its toxicity. Yet, the adjuvants are not studied by the health authorities, because they are protected by the industrial secret. We recall that for a study to be qualified as scientific, it must be published in a journal after validation by an expert committee.

ADMISSIBLE DAILY DOSE, AN UNSAFE STANDARD

Studies that lack any real scientific basis do not guarantee the consumer's safety.

They aim to define the Admissible Daily Intake (ADI), that is to say, the amount that every human being can consume on a daily basis without suffering negative impacts on his/her health. These studies are based on animal-testing, the results of which are transposed to humans through an arbitrary « safety coefficient ». This defines the Maximum Permissible Residue Limit (MPRL), i.e. the maximum amount of pesticide allowed in the final product to meet the ADI. However, in the case of carcinogenic, mutagenic, reprotoxic (CMR) and endocrine disrupting pesticides (ED), it is more important to examine when and for how long exposure took place.



ENDOCRINE DISRUPTORS

Endocrine disruptions affect the way in which the hormone system functions and they can have harmful effects on individuals and their children. These effects include hormone-related cancers (cancers that affect the thyroid, breast, prostate, testes and uterus), male infertility, genital deformities in baby boys, development issues in the brain, decreased intellectual ability, autism, hyperactivity, obesity and diabetes. Humans are especially vulnerable to the effects of exposure during puberty and pregnancy. Some EDs can have an effect at very low concentration levels. It is also important to bear in mind the cocktail effect. In 2013, the World Health Organisation (WHO) published a report and the United Nations Environment Program (UNEP) concluded that endocrine disruptors pose a global threat.

GMOs: WRONG SOLUTION

Despite the fact that the industry presents them as the solution to all our problems, GMOs create a vicious cycle in which farmers become dependent on synthetic products. The vast majority of genetically modified plants (GMPs) currently on the market are either herbicide-resistant or insecticide-producing. This leads the targeted organisms to develop a resistance to pesticides. Indeed, GMOs are technologies that have been developed in laboratories. They use industrial seeds, whose genome is unable to adapt to the local soil, which puts a great strain on the genes. This is in contrast to peasant seeds, which are based on selection and in situ production. GMPs fail to defend themselves against bio-aggressors without pesticides, so the need for pesticides increases. Farmers end up in a spiral of economic and decision-making dependence. Furthermore, GMOs are covered by patents which reduce the farmers' autonomy to preserve, use, exchange and sell seeds.

⁶ <https://academic.oup.com/jcem/article/100/4/1256/2815066>



17/01/2018 ECVC action against new GMOs.
Photo Credit: ECVC

WHAT ARE THE ALTERNATIVES?

1

THE AGROECOLOGICAL PEASANT MODEL

For far too many years, agricultural policies have treated fields as if they were factories that can be mechanised to extreme lengths in order to generate huge profits. This exploitation comes at the price of the environment, the people and the farmers since it does not consider agriculture holistically. Fields are by no means independent of their environment, so we need to return to a model that aims to work in harmony with biodiversity. Thus, the principles of agroecology (see box) must form the basis of the new agricultural model in order to reach a sustainable, resilient and social form of agriculture. We must recognise, protect and make universally accessible peasant knowledge and know-how, as well as other natural technologies which are an alternative to pesticides. For example, natural biostimulant preparations (purines, decoctions, etc.) and ancestral peasant know-how, which are harmless to the environment, must be made available to the public so they can be used freely, even if they do not generate a profit for the industry.

2

NATURAL PREPARATION METHODS THAT ARE OF LITTLE CONCERN

These are natural preparations of plant, animal or mineral based products. For example, they can result from a fermentation process (like purines). They are spread over the fields to stimulate plant defenses, act as a fertiliser, or repel pests.

These ancestral practices, which are harmless to the environment and health, have proven to be very effective in the fields. However, the majority of Member States, who are responsible for regulating these preparation methods, refuse to develop specific legislation outside of pesticide legislation to classify these products. In most cases, if farmers want to use them, they must submit an application for market authorisation, a complicated and often prohibitively expensive procedure.

We must not let the industry create a monopoly, impose intellectual property rights and profit from natural preparation methods, which are based on peasant knowledge and should belong to the public domain. Also, it is essential that these preparation methods are not classified as "biocontrol" products, a lucrative sector that the industry is taking over.

3

NATURAL ALTERNATIVE TECHNIQUES



Crop rotation :

This technique involves not cultivating the same plant species on the same plot of land from one year to another. Choosing crops that compete with undesirable types of grass is essential.



Choice of cultivated varieties/ Allelopathy:

Some crops release substances which inhibit the growth of some weeds. Triticale and oats are among the most competitive crops.



False seeding:

This technique involves helping weeds to germinate over a period of 3 to 4 weeks and weeding them manually before planting the crop.



Alternating crops and under-sowing:

Sowing green manure between two rows of crops provides a natural cover for non-cultivated areas which simultaneously hinders weed growth and fertilises major crops by protecting the soil.



Keeping soil covered:

Using a living cover (such as clover, flax, mustard, oat,...), an organic mulch (leaves, wood chips, straw...) or an artificial cover to cover the soil prevents weeds growing, preserves humidity and enriches the soil.

4

MODIFYING SOIL BIOLOGY

Although we can use the aforementioned alternatives, it is important to highlight a fundamental condition that explains the presence of weeds in our fields.

Every plant/soil relationship involves an exchange of energy. This consists in the plant taking minerals and organic material from the soil, and giving the soil what it needs in return. In other words, if the plant draws 90% of its energy from the soil, it "returns" a very high percentage (60-70%, although it varies from one species to another), which ensures a healthy and pest-free existence. However, weeds throw this harmony into disarray since they draw 90% of their energy from the soil but only "return" 10%. This ensures that they grow, flower and seed extremely quickly.

For this process to take place there must be mainly bacteria in the soil so that the weeds can grow and "win" the battle. This can happen regardless of the type of terrain.

Therefore, for us, the most effective and natural herbicide involves modifying the biology of the soil in order to change the high levels of bacteria into an even mix of fungi and bacteria or just fungi, depending on the desired crop. This is nothing new. Thousands of years ago, farmers would prepare the soil to achieve these effects. In those days, there were no complex laboratory products available. Instead, there were fermented cereals, forest leaves, sugars, etc. This was the perfect inoculation against the bacteria as they were capable of activating and balancing the soil, adapting the pH level, triggering the nutrient cycle, creating an appropriate environment, retaining water, preventing erosion and, in short, creating a living, fertile soil in which pests and/or diseases have no place.



AGROECOLOGY

"Agroecology is a way of life and also our way of making progress towards Food Sovereignty. We understand agroecology as a process of individual and collective transformation, above and beyond specific agroecological techniques and practices. We are committed to moving forward together, excluding no one. Our aim is an agriculture based on peasant autonomy, independent of oil and other fossil fuels; a farming system that protects landscapes without GM crops, patents or agrochemicals."

⁷Extract of the Evenstad Declaration of ECVC

LET'S PHASE OUT PESTICIDES!

We want to ensure fair prices for farmers, protect their livelihoods, provide them with a decent standard of living and put an end to the market-driven mindset that subjects them to unfair commercial practices. These practices prevent them from choosing alternative solutions, protecting the environment and ensuring food sovereignty. In order to achieve these aims, we demand...

...A CAFP FOR THE FARMERS

In order for the transition of the European agricultural model to take place, it will need to be able to rely on a legal framework. That legal framework is the Common Agricultural and Food Policy (CAFP), which will accompany farmers in their agroecological transition towards alternatives to pesticides. It will have to provide strong and effective tools to assess farms as well as financial support for those who want to take part in the transition. It should favour small and medium-scale farms, allow for the regeneration of rural areas, protect biodiversity, favour the establishment of farmers as professionals, promote the sharing of knowledge as well as secure remunerative and fair prices for producers.

...THE END OF FREE TRADE AGREEMENTS AND IMPLEMENTATION OF COMMERCIAL MEASURES TO SUPPORT PEASANTS

Trade globalisation, porous external EU borders, open internal borders, the fact that producers are left at the mercy of global pricing as well as a lack of upward harmonisation of EU regulation mean that producers must compete with each other. Consequently, those who are less productive and who cannot face price wars and trade distortions are pushed out of the market. Therefore, market distortions present a huge obstacle for peasants who wish to phase out the use of pesticides. In such cases, measures that support peasants are indispensable so that they can compete on the market and ensure agroecological transition.

These factors highlight how important it is for European institutions to stop concluding free trade agreements which open up the single market to market distortions. As a first step, they must take measures to prohibit highly toxic substances (CMR and ED) throughout Europe to avoid the health hazards associated with their use. Of course, they must accompany this prohibition with measures to help farmers phase out pesticide use in their fields.

THE EXAMPLE OF DIMETHOATE IN FRANCE

In France, the use of dimethoate, an organophosphorus insecticide, had increased significantly before 2016 because of a new pest that targeted summer fruits. In addition to the threat that this product posed to the health of peasants, their employees and consumers, it exposed the cherry industry to the incalculable consequences of a health crisis. In February 2016, the ANSES (National Agency for Food Safety) banned dimethoate.

However, the ban of a pesticide across the national territory is not a victory if it entails relocating production and polluting another area. This is what would have happened if the State had allowed cherry imports to substitute local production. These imports would have come at a higher cost because of the withdrawal of dimethoate. This is why the government activated a safeguard clause i.e. a provision in European law that allows the derogation of the free movement of goods within the Single Market. The government banned cherry imports to France from countries where the pesticide was allowed. This unilateral protectionist measure did not trigger any trade war, contrary to what the proponents of the free movement of goods promised. Rather, during the weeks following the French ban, the majority of European cherry producing countries banned dimethoate in order to maintain access to our market!



Training material from the EAKEN network, written in the context of ECVC's work on agroecology and based on Confédération Paysanne's 2017 publication "Sortir des Pesticides!".



Photo credit: Eco Ruralis

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