Translated with deepl

New analyses show: Conventional apples – including those from Luxembourg – are contaminated with multiple pesticides and are not suitable for consumption by young children!

Much more consistent action by the government is needed to protect the population and nature from pesticides!

How many more harmful toxins do we have to consume every day through our food before the government finally takes action? Given this lack of action, how is it even possible to protect your children and yourself from the harmful side effects of pesticides?

These and similar distressing questions arise when looking at the alarming results of a new Europe-wide study by the Pesticide Action Network Europe (PAN Europe).

The object of the study was the symbol of healthy eating par excellence: the apple. What's more, it was locally grown and bought 'next door' – so you'd think you'd be on the winning side when it comes to health. Right?

Unfortunately, the study refutes this assumption – in a dramatic way: 90% of conventional apples from Europe should not be eaten by children under the age of three according to EU regulations due to the pesticide residues measured. The residues found in this study were a staggering 7 to 112 times higher than the legal limit for baby food – something most parents are certainly unaware of.

The Mouvement Ecologique contributed three samples of conventionally produced apples from Luxembourg to this study – unfortunately, these stand out particularly negatively in the European average, as they have above-average levels of contamination with a cocktail of different pollutants**!**

This analysis is one of a whole series that has been published in recent years:

- Detection of **pesticide residues in the hair of children** in Luxembourg: the hair samples of ALL children were contaminated (analysis by LIST on behalf of the Ministry of Health in 2022[1]);
- **Dust analyses** in 12 different **households** in Luxembourg: All analyses showed high levels of pesticide active ingredients, regardless of location (analyses commissioned by Mouvement Ecologique in December 2022)[2];
- **Regular official food sampling** by the Luxembourg food authority ALVA**;**
- Several analyses over the past two years as part of an EU-wide campaign by *PAN-Europe* to record exposure to the persistent **chemical TFA**, which largely originates from agricultural pesticides: **groundwater and surface water, tap water, mineral water, and in the food chain in flour, bread, pasta and wine**.

It is not as if these highly alarming analyses have been completely without consequences.

On the one hand, public awareness of these problems has certainly increased. On the other hand, various authorities have also taken action; for example, the Water Management Authority has carried out analyses and organized a technical seminar.

However, there is still a lack of concrete measures to protect human health and the environment from these harmful and destructive pollutants, as well as concrete initiatives to provide farmers with more advice on alternatives to harmful pesticides and to make these alternatives more widely available – even though alternatives do exist.

On the contrary:

At **EU level**, attempts are even being made to **roll back environmental and health protection** through **deregulation** by means of the so-called **Omnibus packages** (see explanations at the end of the statements). It is not known what position Luxembourg's representatives at EU level are taking on this issue: are they on the side of those who want to deregulate, or do they represent the interests of consumers and the environment? In several parliamentary questions, the Ministries of Agriculture, Environment and Health failed to provide an answer to this important question.

In December, the Ministry of Agriculture presented an **unambitious and largely empty Luxembourg organic action plan, which should be a key instrument for reducing pesticide use.** This attitude and the failure of the Ministries of Health, Agriculture and Environment to take action to reduce pesticide use and its negative consequences for the environment, biodiversity and health through the consistent expansion of organic farming is alarming.

Enough is enough, we must put an end to putting human and natural health at risk! We have a right to healthy food that is not contaminated with a cocktail of toxic chemicals.

The Mouvement Ecologique urges the Luxembourg government to finally tackle the challenge of converting Luxembourg to agriculture that is compatible with health and nature and produces food without harmful toxins!

This is a challenge for the entire government and, above all, for Agriculture Minister Martine Hansen, Health Minister Martine Deprez and Environment Minister Serge Wilmes.

The new study on pesticide contamination in apples, which in a sense is now the last straw, is presented in more detail below:

1. The apple as a subject of study: a symbol of health or a source of pesticide contamination?

'*An apple a day keeps the doctor away*' is an old saying that has been scientifically proven. Apples are indeed a source of fibre and vitamins, they help regulate hunger, and recent research shows that they have a positive effect on the intestinal flora.

A healthy (break) snack, compote, 'Äppeltäsch': this symbolic fruit plays a central role in dietary habits and is promoted as a healthy food. Since the 18th century, the apple tree has been an inseparable part of Luxembourg's 'Bongerten', as the most common standard tree in this important element of our cultural landscape.

However, over time, the old, more resistant varieties have been replaced by newly developed varieties that are better suited to industrial apple production. Easy-to-handle varieties with a low stem, which are easier to maintain and harvest but also heavily dependent on the use of agrochemicals, have become mainstream.

As a consequence, apple production is unfortunately one of the largest consumers of pesticides today. **On average, a conventional apple is sprayed up to 30 times** before it reaches the shop. Given that apples are one of the most commonly eaten fruits, they are potentially a significant source of pesticide exposure for consumers.

With its new **study 'Pesticide cocktails, PFAS and neurotoxins in most European apples'**, the ***Pesticide Action Network Europe*** – of which Mouvement Ecologique is a member – shows the extent to which apples throughout the EU are contaminated with pesticide residues.

How was the study conducted?

Thirteen countries participated in the study. In September 2025, each country purchased three to five samples of conventionally grown apples from supermarkets, local markets or farm shops. This resulted in a total of **59 samples**. **Each sample consisted of several apples (min. 500 g)**. The apples were of the same variety or, as in the case of two of the three Luxembourg samples, a mixture of varieties from the same producer. The most common varieties were Gala, Golden Delicious, Elstar and Jonagold. The single-variety sample from Luxembourg was Elstar and was purchased in a supermarket – the mixed samples came from the farm shops of two producers.

The samples were all analyzed for pesticide residues in the same laboratory in Germany in accordance with international standard certifications[4].

The study only took into account results that were above the standard limit of quantification (LOQ). Samples containing residues between the limit of detection (LOD) and the limit of quantification (LOQ) were not considered. In other words, the pesticide concentrations detected in the 'positive apple samples' cannot be considered traces, but represent actual pesticide exposure.

Specific statistics were compiled for a number of pesticide substances:

- **PFAS pesticides**, based on their chemical formula,
- **'Candidates for substitution'**, based on the EU's legal definition, and
- **Neurotoxic pesticides**, based on work by the **European Food Safety Authority (EFSA)[5]**.

Even though the apples were sampled randomly, the analyses show a clear and consistent result that cannot be classified as random from a scientific point of view. On the contrary, the number of samples provides a conclusive analysis.

Further scientific work with a more robust study design and a larger sample size must be carried out by official bodies. It is not the task or claim of PAN Europe and its partner organizations, such as Mouvement Ecologique, to assume governmental responsibility and conduct fully representative market studies. **The aim of this study is to draw attention to existing problems using recognized scientific methodology and to highlight the need for action.**

2. Alarming results for conventionally grown apples from across Europe

The results are extremely alarming: **a total of 58 pesticides** were detected. **In Luxembourg, there were 10 pesticides** (above the quantification level), exclusively fungicides and insecticides; no herbicides were detected.

Above all, the majority of apples contain residues of more than one pesticide active ingredient, so-called 'pesticide cocktails' (85%). Although it has been mandatory since 2005 to set limits for such 'cocktails' (see point 3.2), this has not yet been done.

Finally, the results show that over 90% of conventionally grown apples in Europe should not actually be eaten by babies and young children according to EU regulations, if the EU regulations for processed, designated baby and toddler food are applied. Parents are often unaware that the regulations for processed foods are often stricter than those for fresh foods.

The results of the analysis clearly show the problems that national governments and EU decision-makers can no longer ignore: the systematic, widespread impact of pesticides on our environment and health! In other words: the high-risk side effects of conventional agriculture!

The following facts are also extremely relevant:

- Luxembourg is one of the sad 'EU leaders': up to 7 pesticide residues per apple!

The studies show that 85% of samples across the EU contained more than one pesticide residue (Fig. 1). In many countries, there are simply no pesticide-free apples[6] from conventional cultivation!

The **EU average** shows that apples contain 3 pesticides – but Luxembourg 'tops' this result with an average of 5 different pesticides!

The highest **number of pesticides** in an apple? Luxembourg is once again one of the sad 'winners'. **Seven different pesticide residues** were detected in a single apple!

Of these seven pesticides, six were different fungicides (boscalid, fludioxonil, fluopyram, pyraclostrobin, tebuconazole, trifloxystrobin) – agents used to combat fungal diseases such as mildew, apple scab and storage rot. This clearly shows how these agents are applied multiple times in the plantations over the course of the season – among other things, to prevent plants from developing resistance to individual active ingredients. **But it is precisely this practice that leads to these high-risk multiple exposures in the final product, which consumers then ingest!**

If there were limits for pesticide cocktails in food, these products would certainly have to be taken off the market!

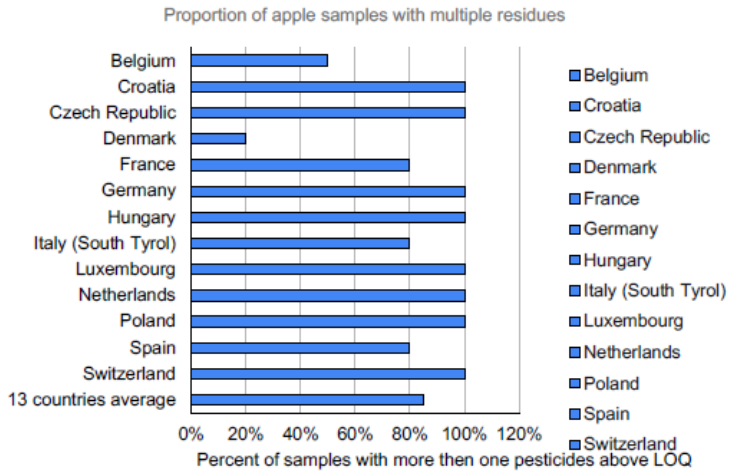

Figure 1: Percentage of samples with more than one pesticide residue = pesticide cocktail.

- Double problem: in addition to pesticides, how about a few forever chemicals?

But conventionally grown apples can also provide us with our maximum daily dose of PFAS (forever chemicals). Eating just two conventionally grown apples can already reach the maximum permissible dose! The fact is: more than half of the apples in the study (64%) contain at least one PFAS pesticide residue (Fig. 2), including the Luxembourg samples: trifloxystrobin and fludioxonil were found in two Luxembourg samples, fluopyram in one.

Given the long-term toxicity of PFAS and multiple exposure through various sources of intake (TFA in water and food), this is an additional cause for concern.

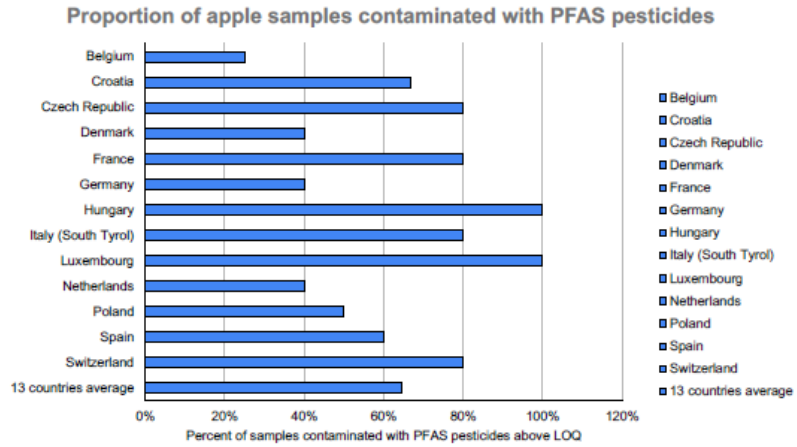

Figure 2: Percentage of samples containing residues of PFAS pesticides

- Would you rather have a *more toxic* or *nerve-damaging* apple?

Seventy-one per cent (71%) of European apples contain **residues of Europe's most toxic pesticides – the notorious *Candidates for substitution (Fig. 3)***. These are substances that should have been withdrawn from the market long ago for health reasons. Member States should have phased out their sale and consumption since 2011, but have failed to do so.

A total of 8 candidates for substitution were detected in the study, **and all Luxembourg samples also contained some**. Among the most toxic properties of pesticides, neurotoxicity is a growing cause for concern: Parkinson's disease, reduced IQ due to exposure before and after birth: **36% of the apples tested contained at least one neurotoxic pesticide residue**.

In some countries, exposure to neurotoxic pesticides is systematic (3 out of 3 in Croatia), while citizens in other countries can consider themselves lucky, as **at least no neurotoxic pesticide residues were found** there: these include **Luxembourg**, but also Denmark, France and the Netherlands.

However, **two of the three Luxembourg samples** tested positive for a pesticide active ingredient called **spirotetramat**, which has been banned since October 2025. At the time of use in the summer of 2025, producers were still allowed to use up the remaining stocks of products containing this active ingredient.

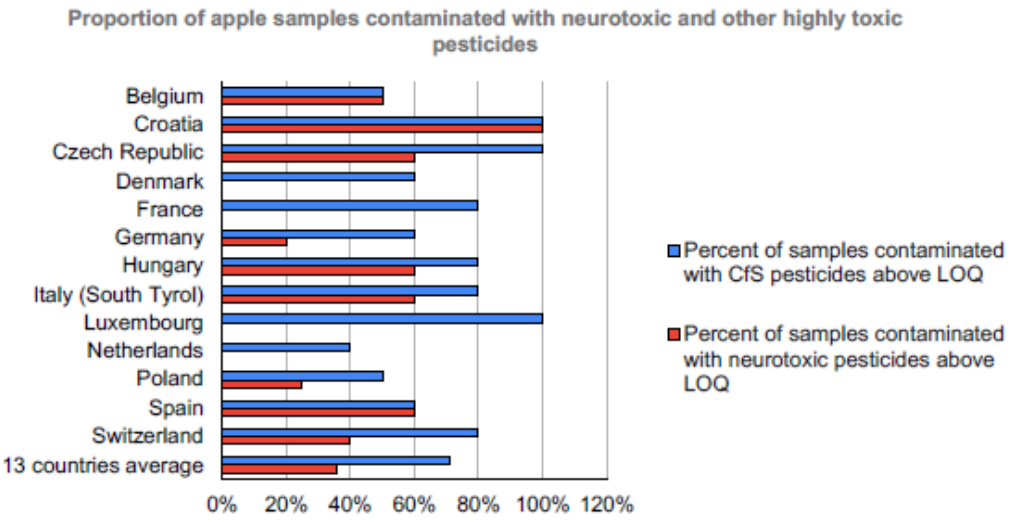

Figure 3: Percentage of samples containing residues of harmful (candidates for substitution) or neurotoxic pesticides.

- Controversial frontrunners: acetamiprid, captan and fludioxonil

Some of the most toxic and controversial European pesticides were frequently found in the study, **including in the Luxembourg samples**:

- **Acetamiprid**: Almost one in five European apples contains residues of this extremely harmful **bee-toxic pesticide**. Acetamiprid is used in apple cultivation to combat aphids. However, more and more scientific evidence shows that this neurotoxic substance, like other neonicotinoids, can directly cross the placental barrier in humans and impair the development of the foetal brain.

  The European Food Safety Authority (EFSA) has been pointing this out to the European Commission since 2013, and only last year, after years of delay, did the European Commission require pesticide manufacturers to conduct a study on developmental neurotoxicity. **PAN Europe emphasises that the results of scientific research are now more than sufficient to ban this substance immediately.**

- **Captan** is found in 61% of apples. It is an antifungal agent (**fungicide**) and is supposed to help against fruit tree cancer, apple scab and bitter rot. According to PAN Europe, captan has been re-approved in Europe, contrary to EU law. Legal proceedings are pending in this regard. This widely used fungicide is classified as **a suspected carcinogen and is highly toxic to aquatic organisms**.

- **Fludioxonil** is found in almost 40% of samples. This **fungicide is an endocrine disruptor** and a PFAS pesticide. As a *candidate for substitution*, it should have been withdrawn from the market in Europe since 2011, as numerous alternatives are available. It is toxic to the human liver and kidneys and decimates fish and amphibians in waterways. In apples, it is used to combat grey mould and blue rot, among other things.

Call to parents: Only give your children untreated apples to eat – with organic produce, you are on the safe side when it comes to pesticide residues!

European law prohibits the sale of processed foods with quantifiable pesticide residues to infants (under 12 months) and young children (between one and three years).

So if the fresh apples from the study were classified in the same way as processed foods, **babies and toddlers would only be allowed to eat less than 7% of the samples tested**. In fact, **93% of apples contain pesticide residues,** usually more than one (Fig. 4). The residues found in the study were even 7 to 112 times (!) above the legal limit for toddlers!

All three samples from Luxembourg also contained pesticides above the detection limit. Only 4 out of 59 samples (two from Denmark, one from Belgium and one from Italy) can be considered pesticide-free.

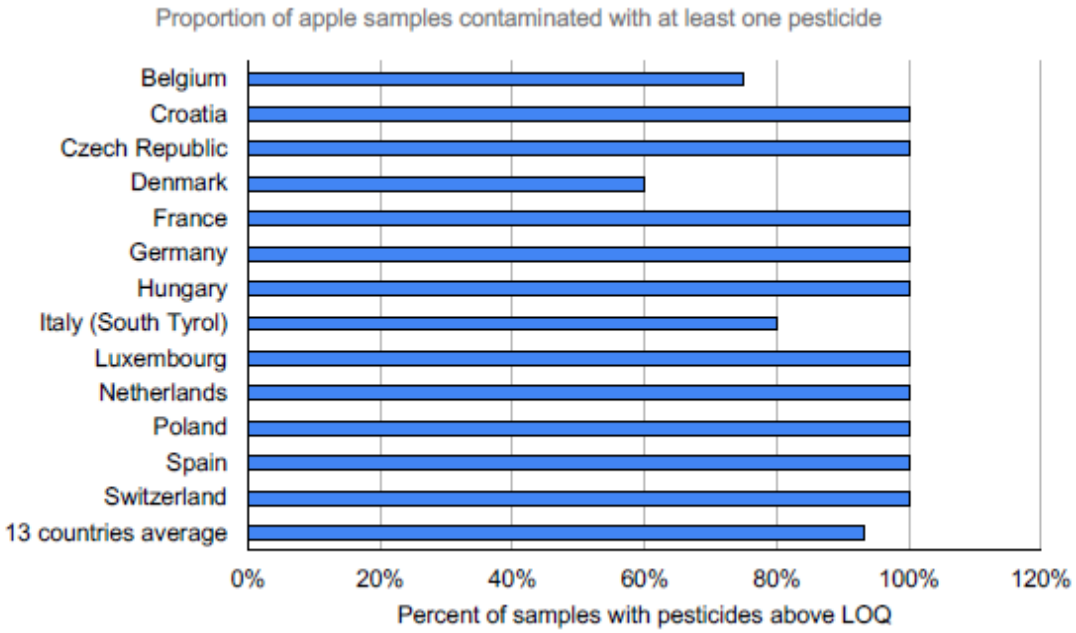

Figure 4: Percentage of samples containing residues of at least one pesticide above the quantification level = not suitable for consumption by children under 3 years of age.

3. Snow White apples – due to political failures

The current situation is the result of decades of political failure at all levels:

1. Multiple contamination in apples has been known for a long time – yet no active efforts are being made to find solutions

The findings of this report are worrying. But even more alarming is that they are not new – they are consistent with existing research findings. [7] The level of contamination in conventional apples remains high, making them a significant source of pesticide exposure for European consumers. Overall, despite the increasing availability of alternatives to synthetic pesticides, acceptance by the agricultural fruit-growing sector appears to be low and incentives insufficient, otherwise less pesticides would be used.

In contrast, the contamination of organic apples is generally very low. The pesticides permitted in organic apple cultivation are less toxic to humans and are generally less harmful to the environment.

2. Multiple residues: Congratulations on the 20th anniversary of the EFSA's inaction

Twenty years ago, the EU Regulation on pesticide residues ((EC) No 396/2005) stipulated that when setting maximum residue levels (MRLs), the simultaneous exposure to multiple pesticides must also be taken into account. This was to be done as soon as an assessment method was available.

However, this method does not yet exist, and there is no doubt that insufficient work has been done to develop it! As a result, pesticides continue to be assessed almost exclusively on an individual basis in practice, even though consumers are exposed daily to a mixture of several pesticide residues in food, drinking water, the air they breathe, etc. (so-called 'pesticide cocktails').

Scientific studies increasingly show that chronic exposure to higher pesticide residues via food is associated with particular health risks.

Long-term exposure to multiple pesticide residues is associated with reduced fertilization rates[8], **lower egg reserves**[9], **lower sperm quality**[10] **and lower chances of success with assisted reproductive technology**[11].

In addition, a French epidemiological study concluded that regular consumption of organic food reduces the likelihood of developing various types of cancer, particularly lymphoma (blood cancer), by 25%[12].

Although the European Food Safety Authority (EFSA) is currently working on the assessment of certain additive effects[13], **possible synergistic effects** between pesticides remain **unconsidered**. This means that a key requirement of EU law has not been implemented for years!

It is clear that it is not possible to test every combination of pesticides, but knowledge about the toxicity of exposure to multiple pesticide residues is limited due to a lack of research funding. **Although the EFSA continues to assess the risk of pesticides substance by substance, this does not reflect the reality in products and in the human body, where substances occur together.** The EFSA must develop much more consistent limits for this cumulative effect. At the same time, however, pesticides must be consistently banned and alternatives promoted.

3. The population – especially young children and babies – is not adequately protected

EU legislation stipulates that processed foods for infants and young children must not contain pesticide residues above the specified value of 0.01 mg/kg, above which a substance can be determined ('level of quantification' LOQ).

The LOQ is somewhat arbitrary, as current technology makes it possible to quantify residues of most pesticides at levels well below 0.01 mg/kg. But at least this limit exists.

It is essential to prevent exposure of infants and young children during the **particularly sensitive 'first 1000 days'** of life. In fact, their nervous and immune systems are in full development and are sensitive to exposure to chemicals. Even very low concentrations of some chemicals can cause irreparable damage.

If fresh foods were treated in the same way as processed foods, less than 7% (4) of the samples tested would meet this requirement of EU legislation![14] Parents who want to feed their children a healthy diet and who prepare their own baby food at home or offer fresh fruit as a daily snack are likely to be alarmed by this situation, given the inaction of political actors.

It is incomprehensible that the authorities are not consistently reducing pesticides and, at the same time, encouraging parents and educators to feed young children exclusively organic fruit and vegetables. Furthermore, it is incomprehensible why there are still no national guidelines on catering in crèches using organic food and why the EU school fruit programme of the Ministry of Agriculture does not offer more organic products.

4. EU Member States are lagging behind: 17 years of inaction on pesticide use

Member States are lagging behind or are completely inactive, not only in setting maximum levels, but also at the source itself, namely in using fewer pesticides. In order to better protect people and the environment[15], the EU wanted to gradually reduce pesticide use as early as 2009 with the Directive on the sustainable use of pesticides (2009/128/EC) (SUD, *sustainable use directive*)[16].

The core of the directive is integrated pest management (IPM), which has been mandatory in all agricultural businesses since 2014 and is intended to give priority to non-chemical measures.

Nevertheless, the directive has not been adequately implemented to date: In 2020, the European Court of Auditors found that the European Commission had never systematically reviewed the implementation of the directive in the Member States and that its objectives had therefore largely been missed[17].

In Luxembourg, too, this seems to have been addressed only in a relatively vague manner so far.

According to an amendment to the Grand Ducal Regulation of

26 September 2017 on the sale, use and storage of plant protection products, the Ministry of Agriculture is to issue *guidelines on integrated pest management* for different crops and different sectors (Art. 14bis, 2° *l'élaboration et la publication de lignes directrices spécifiques aux différentes cultures ou secteurs en matière de lutte contre les ennemis des cultures à faible apport en produits*).

Furthermore, the current agricultural support programmes (*'eco-regulations',* subsidy 519) provide financial support for farmers who stop or reduce their use of pesticides, namely for: *"Biological control of insect pests in fruit growing (519) - Control of insect pests without insecticides*' (e.g. the use of pheromones that 'confuse" certain pests, making it difficult for them to mate and thus preventing damage to crops by these insects). Official figures show, however, that these measures have only been tentatively adopted by fruit growers: the Ministry of Agriculture stated from the outset that this subsidy would only be paid for a maximum of 80 hectares. However, the success was so limited in 2024 that it was only used for 28 hectares. This raises questions: Why did the measure not meet with broader approval? Is there a lack of suitable advice? How could it be improved? Would support programmes be needed to grow other varieties that are more resistant to fungi and require fewer fungicides?

The high proportion of organic apple cultivation in some EU countries shows that production without synthetic pesticides is technically possible – in Germany, 15% of apple production does not use these substances (organic farming).

5. *Candidates for substitution*: 17 years of ignorance here too, despite health risks

In 2009, the EU harmonized and improved the system for authorizing pesticides at Member State level. It created a new pesticide classification, namely 'Candidates for substitution' (CFS), which includes particularly toxic pesticides that should be withdrawn from the market as a matter of priority at Member State level as soon as alternatives become available.

While proper implementation of this obligation should lead to a reduction in CFS residues in food, an earlier report by PAN Europe showed [18] that the presence of CFS in European food has actually increased over the last ten years! The failure to implement the substitution principle was brought to the attention of the European Commission, but no response was forthcoming – a deliberate act of ignorance at the expense of people and nature.

6. Supermarkets are not taking enough social responsibility

Most of the apples in this test campaign were purchased in supermarkets. PAN Europe has found that the purchasing policies of European supermarkets rarely take into account the presence of multiple pesticide residues. In other words, supermarket chains are not yet adequately fulfilling their responsibility to their customers.

4. The situation is unacceptable and is becoming increasingly acute due to inaction – politicians must finally take action!

The results of this study make it clear that **the use of pesticides and the associated pollution must be reduced once and for all!**

The instruments and guidelines are all known at European and Luxembourg level, but in the past there has been a lack of will to take action.

This attitude is no longer acceptable in view of the proven (!) risks to human health and the disastrous effects on biodiversity and (drinking) water.

The situation is clear and is also recognized by the authorities: **general pesticide exposure and, above all, multiple exposures are a problem that must be addressed immediately**.

Slowly but surely, the use of pesticides should be phased out.

Pesticides should, if at all, only be used in extreme cases of calamities and should not be considered the norm. Integrated pest management is moving in this direction and works with beneficial organisms and mechanical solutions instead of synthetic chemicals. It is already being promoted to some extent in Luxembourg, but apparently not enough (cf. 3.4). Organic farming already manages without harmful substances, which is why many fruit producers in Europe are taking this route. Apple cultivation without synthetic chemical pesticides is possible!

Europeans across the EU are aware[19] of the risks posed by pesticides. They regularly raise their voices to demand a rapid and significant reduction in pesticide use in Europe[20].

In view of the increasingly serious knowledge and situation (persistent chemicals in the environment and food, the exposure of all children to pesticides as proven by the Luxembourg Institute for Health, the evidence of ubiquitous pesticide contamination through house dust analysis in Luxembourg households), the Mouvement Ecologique demands:

The Luxembourg government, led by the Ministries of Health, Agriculture and the Environment, must put a stop to pesticide contamination!

It must consistently advocate for the protection of health and the environment at both the Luxembourg and European levels.

Mouvement Ecologique calls for Luxembourg to take a clear stance against the use of all pesticides – in Luxembourg and at EU level – and to take consistent measures to switch to more sustainable farming methods.

Specifically, the demands are as follows:

➢ Uphold protection against pesticide exposure – do not support the omnibus bill at EU level

The current proposal for further deregulation of the EU Commission's **'Omnibus' project** on food and feed safety (see box) must not be allowed to go ahead – it would be a step backwards in terms of protection against the negative effects of pesticide use (unlimited approval periods, lack of re-evaluations contrary to scientific studies, etc.).

Commissioner Christophe Hansen, Luxembourg's MEPs and the national ministries of health, environment and agriculture must take a clear stand against the planned, highly problematic changes and make their voices heard at EU level.

➢ Reform agriculture – implement the EU *'Sustainable Use Directive'* in Luxembourg immediately

Since 2009, the EU Directive on the sustainable use of pesticides (SUD) has laid down the legal framework for reducing pesticide use in all Member States, but it is not being properly implemented and enforced.

The European Commission is urged to review the national implementation of the SUD in order to ensure a gradual reduction in pesticide use in the EU. Luxembourg should **campaign for this at EU level**.

But in Luxembourg itself, too, the government must finally fulfil its obligations under Article 14 of the SUD: The Ministry of Agriculture must introduce **integrated pest management** – going far beyond the existing individual support measures.

In addition, farmers must be offered **high-quality, independent advice on integrated pest management** and guidelines for integrated pest management must be developed to expand knowledge of alternative practices and support farmers in their proper implementation.

➢ Systematically revise PAN BIO 2035

It is well known that no synthetic chemical pesticides are used in organic farming!

Unfortunately, however, only around 10% of agricultural land in Luxembourg is farmed organically, which is completely inadequate. It is the government's responsibility to consistently support organic farming today and, at the same time, to gradually persuade

conventional farmers to switch to organic farming. The key instrument for achieving this goal is the National Action Plan for Organic Farming (PAN-Bio). The previous plan expired in 2025, giving the government the opportunity to put forward a concrete plan to promote organic farming! Unfortunately, this is not the case. The new PAN Bio 2030 lacks ambition, is far from concrete... and falls far short of what is required.

The Ministry of Agriculture is required to consistently develop this organic action plan and bring it to life in collaboration with stakeholders. On the one hand, it is the most effective basis for promoting organic farming and, on the other hand, the range of Luxembourg organic products on offer must be expanded!

➢ Organic food in all public canteens: now!

Restopolis' exemplary Supply4Future programme, which gives preference to organic food over conventional food in school canteens, must be extended to all public canteens without delay. This is all the more important as farmers need several 'public buyers' in order to make the transition to organic farming.

In particular, the Ministry of Health should issue clear guidelines on the use of organic food in hospitals, actively support them in the conversion process and, if necessary, increase financial subsidies for food. This will improve the quality of public catering and, in accordance with the precautionary principle, avoid additional exposure to pesticide cocktails for people who are already weakened.

Mandatory requirements should be established for all conventional crèches and childcare facilities so that organic food must be used, especially for these young children.

➢ Critically examine the school fruit programme! Protect ALL schoolchildren!

It is the government's responsibility to provide pesticide-free food in schools wherever possible. It is therefore no longer acceptable for the Department for Environment, Food and Rural Affairs to purchase only a negligible amount of organic fruit (apart from carrots and bananas) for the annual school fruit scheme. A fundamental reorientation of the school fruit scheme tender is necessary.

In addition to the clear health aspect, it promotes children's awareness of non-standard apples and also provides an incentive for local fruit producers to engage in pollutant-free cultivation.

➢ Educate consumers, especially parent:

Parents must be informed honestly and proactively about the high levels of contamination in conventionally produced apples! Consequently, parents should not give their young children fresh conventional apples to eat, as more than 9 out of 10 apples theoretically exceed the legal limits for processed baby food. High-level protection of infants' health is

particularly important in the first 1000 days after birth, which means that even fresh foods must be as free of harmful substances as possible.

The Department of Health should expand its campaign 'Eat healthy, move more' to educate citizens about the importance of consuming organic apples and other foods to protect foetuses, babies and young children. This is all the more important because various pesticides also find their way into breast milk.

➢ Establish a methodology for assessing pesticide cocktails and their MRLs

The European Food Safety Authority (EFSA) must fulfil its legal obligation and immediately present a scientifically sound methodology for assessing chronic exposure to multiple pesticide residues in food, taking into account the current state of research and the protection of the entire population. Until then, stricter precautionary rules are needed, in particular the introduction of a mixture assessment factor (MAF) (PAN Europe recommends an MAF of 10) to effectively protect Europeans from harmful pesticide cocktails.

Luxembourg must advocate for this in the relevant EU bodies – to date, the position of our representatives in these rather opaque bodies is unknown.

➢ More responsibility in trade: supermarkets as a lever for pesticide-free food

Supermarkets should be encouraged to initiate self-monitoring and to remove manufacturers who repeatedly offer pesticide-contaminated food from their list of suppliers.

Some supermarket chains, such as LIDL[21], already apply stricter maximum pesticide levels than those applicable in Europe. Only fruit and vegetables with a maximum of one third of the permitted maximum residue levels may be sold. This is very welcome and should serve as a model for other supermarkets, including those in Luxembourg.

In addition, supermarkets should play a role in educating consumers and promoting more resistant varieties, rather than advertising apple varieties that are known to require high levels of pesticides to grow.

Above all, the range of organically produced fruit must be systematically expanded and strategically placed in a more prominent position than conventionally produced fruit.

Omnibus on food and feed safety

In December 2025, the European Commission presented a legislative proposal for an omnibus regulation on food and feed safety to the European Parliament and the Council. This omnibus proposal paves the way for a significant weakening of the protection of

citizens' health and the environment from pesticides. The Commission's proposal would make pesticide regulation much more political and less scientific. In addition, the determination of the toxicity of many substances would become more arbitrary – citizens and the environment would bear the risks.

The PAN Europe study underlines the importance of maintaining strict pesticide guidelines and implementing them more effectively. In fact, the current approach to pesticide residues is inadequate, as pesticides that should have been banned long ago are not being removed, the effects of exposure to multiple residues in food are not being taken into account, and the effects of exposure to residues on very young children or during pregnancy are not being considered.

Recommendations for citizens

1. Choose organic apples

Organic apples are always grown without synthetic pesticides. Buying organic food significantly reduces the risk of exposure to pesticides through food. In addition, you can often support local organic farming initiatives.

Another option would be to pick apples yourself in standard orchards in autumn and store them, provided that the varieties allow this. The Luxembourg initiatives 'Gielt Band' or 'Kierfchen' can help you find such freely accessible orchards.

Fruit and vegetables should make up a significant part of your diet. If organic food is not available, PAN Europe recommends eating fruit and vegetables that can be peeled to remove some of the pesticide contamination.

2. Support an environmental organization and get involved if possible

Support environmental organisations such as Mouvement Ecologique, which campaign for fewer pesticides, environmentally friendly agriculture and healthy food. Your contribution can help advance projects and bring about change at the political level. Get involved – through membership, donations or your own commitment – and help protect our environment and our health. If you are interested, please write to us at: meco@oeko.lu.

3. Write to your politicians – talk to them

A letter to your local, national and European politicians can have an impact. Call on them to commit to reducing pesticides and promoting organic farming. Or talk to them directly if you meet them. In this context, you could, for example, express your displeasure at the fact that it is unacceptable that the toxicity of exposure to multiple residues is still not being assessed in the EU.

4. Plant an apple tree

Planting an apple tree in your garden or in a community garden (if you have the opportunity) has several advantages: Apple blossoms produce pollen and nectar, which are beneficial to pollinators, and provide you with pesticide-free apples. Choose a native, resistant variety and select the right tree size for the space you have available. Nature conservation syndicates and organizations and local foresters can advise you on which variety to choose.

[1] https://www.sciencedirect.com/science/article/pii/S0160412022002690
https://www.sciencedirect.com/science/article/pii/S0160412021001513
[2] https://www.meco.lu/de/blog/documentcenter/alle-buergerinnen-chronischer-pestizidbelastung-ausgesetzt-der-staat-luxemburg-muss-handeln/
[3] Zaller et al. 2023
[4] DIN EN 15662, §64 LFGB L00.00-115
[5] https://efsa.onlinelibrary.wiley.com/doi/10.2903/j.efsa.2021.6392,
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[6] Samples from Croatia, Czechia, the Netherlands, Germany, Hungary, Luxembourg, Poland and Switzerland all contained multiple pesticide residues
[7] EFSA Annual Report on Pesticide Residues 2025
Greenpeace Report 2015 'Routine pesticide use in EU apple production'
[8] Kazemi . et al. 2025
[9] Kazemi . et al. 2025
[10] Chiu 2015
[11] Chieu et al. 2017
[12] Baudry . et al. 2018
[13] https://food.ec.europa.eu/plants/pesticides/maximum-residue-levels/cumulative-risk-assessment_en
[14] Directive 2006/141/EC on infant formula and follow-on formula
[15] https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1768841467053&uri=CELEX%3A32009L0128
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