

UNREVISED MACHINE TRANSLATION

Confirmed

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# **Sustainable use of plant protection products action Plan 2024-2029**

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## Core concepts

**“Biological plant protection product” means** a plant protection product containing micro-organisms, semiochemicals in nature or plant extracts.

**‘Biological control’ means** the control of pests using micro-organisms, plant protection products containing semiochemicals or plant extracts present in the wild or macro-organisms/invertebrates<sup>1</sup>.

**Integrated pest management (IPM)** – the consideration of the plant protection measures to be used and the subsequent integration of appropriate measures to discourage the development of populations of harmful organisms, so that the use of the plant protection product and other measures is maintained at economically and ecologically justifiable levels and the risk to human health and the environment is reduced or reduced to a minimum<sup>2</sup>.

**“Chemical plant protection product” means** a plant protection product containing chemical active substances other than those mentioned in the definition of biological plant protection products.

**“Non-chemical methods” means** alternative methods used for plant protection and pest control based on agronomic techniques or physical, mechanical or biological pest control methods (Directive 2009/128/EC of the European Parliament and of the Council)<sup>3</sup>.

**‘Low-risk plant protection product’ means** a plant protection product containing active substances approved or deemed to have been approved in accordance with Article 22 of Regulation (EC) No 1107/2009 and listed in Part D of the Annex to Implementing Regulation (EU) No 540/2011.

**‘More hazardous plant protection product’ means** a plant protection product containing one or more active substances approved as candidates for substitution in accordance with Article 24 of Regulation (EC) No 1107/2009 of the European Parliament and of the Council and listed in Part E of the Annex to Commission Implementing Regulation (EU) No 540/2011 or containing one or more active substances listed in the Annex to Commission Implementing Regulation (EU) 2015/408.

**‘Pesticide’ means** (a) a plant protection product as defined in Regulation (EC) No 1107/2009 of the European Parliament and of the Council<sup>4</sup>; (b) a biocidal product as defined in Regulation (EU) No 528/2012 of the European Parliament and of the Council. Only plant protection products are taken into account in the action plan.

**“Pesticide residues” means** residues including active substances, metabolites and/or breakdown or reaction products of active substances currently or previously used in plant protection products, including in particular residues which may result from the use of active substances in plant protection, veterinary medicine or biocidal products (Regulation (EC) No 396/2005 of the European Parliament and of the Council).

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<sup>1</sup> The definitions of ‘biological control’, ‘biological plant protection product’, ‘chemical plant protection product’, ‘low risk spacing’ and ‘more hazardous plant protection product’ are defined in the European Commission’s draft Regulation on the sustainable use of plant protection products

<sup>2</sup> Plant Protection Act (28.12.2017), Riigi Teataja I: <https://www.riigiteataja.ee/akt/128122017028?leiaKehtiv>

<sup>3</sup> Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides: <https://eur-lex.europa.eu/legal-content/ET/TXT/?uri=CELEX:32009L0128>

<sup>4</sup> Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC: <https://eur-lex.europa.eu/legal-content/ET/TXT/?uri=CELEX:32009R1107>

Council)<sup>5</sup>.

**‘Professional user’** means a person, in particular a self-employed person or an employee of his undertaking, a member of the board of directors of a legal person engaged in such an activity, any other person authorised to manage a legal person or an employee of an undertaking who, in the course of his trade, uses, buys and decides on the choice and use of a plant protection product (Plant Protection Act).

**‘Plant protection device’** means a device intended for the use of a plant protection product which incorporates essential components for its effective operation, such as a tank, a pump and a sprayer.

**“Plant protection product” (PPP)** means a product intended for the following uses:

- protecting plants or plant products against all harmful organisms or preventing the action of such organisms, unless the main purpose of these products is considered to be for reasons of hygiene rather than for the protection of plants or plant products;
- influencing the life process of plants, such as substances that affect their growth but are not nutrients;
- preservation of plant products in so far as these substances or products do not belong to: the scope of specific European Union provisions on preservatives;
- destruction of undesirable plants or parts of plants, other than algae, unless the products are used on soil or water to protect plants;
- control or inhibit the growth of undesirable plants other than algae, unless the products are used on soil or water to protect plants (Regulation (EC) No 1107/2009 of the European Parliament and of the Council).

**“Authorisation** of a plant protection product” means an administrative act by which the competent authority of a Member State authorises the placing on the market of a plant protection product in its territory (Regulation (EC) No 1107/2009 of the European Parliament and of the Council).

**“Placing on the market”** means the holding of a plant protection product for the purpose of sale within the Community, including offering for sale or any other form of transfer, whether free of charge or not, as well as its sale, distribution or other transfer, but not its return to the previous seller. Release for free circulation in the territory of the Union is equivalent to placing on the market within the meaning of Regulation (EC) No 1107/2009 of the European Parliament and of the Council.

**“Distributor”** means any natural or legal person, including wholesaler, retailer, distributor and supplier, who places a plant protection product on the market (Plant Protection Act).

**Aerial spraying – application** of plant protection products from aircraft (Directive 2009/128/EC of the European Parliament and of the Council).

## Introduction

Directive 2009/128/EC of the European Parliament and of the Council provides for<sup>6</sup> a series of measures to achieve a<sup>7</sup> sustainable use of pesticides in the European Union (EU) by reducing the risks and impacts

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[Regulation \(EC\) No 396/2005 of the](https://eur-lex.europa.eu/legal-content/ET/TXT/?uri=CELEX:32005R0396)<sup>5</sup> European Parliament and of the Council of 23 February 2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin and amending Council Directive 91/414/EEC (Text with EEA relevance): <https://eur-lex.europa.eu/legal-content/ET/TXT/?uri=CELEX:32005R0396>

Directive<sup>6</sup> 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides: <https://eur-lex.europa.eu/legal-content/ET/TXT/?uri=CELEX:32009L0128>

<sup>7</sup> Directive 2009/128/EC uses the term ‘pesticide’ throughout, as it was originally intended to extend its scope to include

of the use of plant protection products on human health and the environment, and by promoting the use of integrated pest management (IPM) and alternative approaches or techniques (such as non-chemical alternatives to plant protection products) to reduce dependency on the use of plant protection products. Under Directive 2009/128/EC, Member States have the obligation to draw up a national action plan in this regard and to review it at least every five years and update it if necessary. The Directive has been transposed by the Plant Protection Act.

Two thematic action plans have been drawn up so far in Estonia. The “Action Plan for the sustainable use of plant protection products 2013-2017” was approved by Order No 57 of the Minister for Agriculture (28.2.2013). At the same time, the Action Plan was endorsed for its implementation for the period 2013-2017, which set out specific actions by sub-sector. The Action Plan for the Sustainable Use of Plant Protection Products 2019-2023 was approved by Order No 80 of the Minister for Rural Affairs (13.05.2019)<sup>8</sup>. An overview of the activities carried out under this action plan is provided by: “Action Plan on the sustainable use of plant protection products 2019-2023” 2019-2021 Mid-term review. The performance of activities is characterised by annual indicators.

For the most part, these action plans have achieved the objectives set. For a number of existing metrics, due to changed methodology or additional monitoring data, a more accurate metric can be introduced to better assess the achievement of the objectives of the Action Plan for the Sustainable Use of Plant Protection Products.

The Action Plan is the basis for the continuation, better implementation or further development of existing activities. New activities have also been planned based on the analysis of bottlenecks, survey summaries and the results of the 2019-2023 Action Plan, as reflected in the current situation descriptions.

In addition to the Ministry of Regional and Agriculture (REM), the Agricultural and Food Board (AFB), the Rural Knowledge Centre (METK) and the Estonian University of Life Sciences (EEC) are involved in the implementation of the action plan. The public consultation of the Action Plan will take place through the Drafts Information System. The draft action plan was presented to the Plant Protection Council and was prepared in consultation with various stakeholders, organisations and experts.

**THE OVERALL OBJECTIVE OF THE ACTION PLAN FOR THE SUSTAINABLE USE OF PLANT PROTECTION PRODUCTS IS TO REDUCE THE RISKS TO HEALTH AND THE ENVIRONMENT ASSOCIATED WITH THE USE OF PLANT PROTECTION PRODUCTS.**

The overall objective of the Action Plan is in line with the positions of the Government of the Republic on the European Union’s Farm to Fork Strategy. The achievement of the general objective is supported by the sub-objectives of the action plan. Awareness-raising has been identified as one of the sub-objectives and the implementation of alternative control techniques is intended, where appropriate, to reduce the use of plant protection products.

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biocides. This was not done and this action plan focuses only on plant protection products. Thus, we will use only one term – ‘plant protection product’ – throughout.

<sup>8</sup><https://agri.ee/taimekaitsevahendite-saastva-kasutamise-tegevuskava-aastateks-2019-2023>

## Metrics;

The achievement of the overall objective of the Action Plan for the Sustainable Use of Plant Protection Products will be assessed on the basis of three general metrics.

Indicator	Baseline (2022)	Target level (2029)
<b>Share of groundwater monitoring stations in the monitoring year exceeding pesticide residue limit values for groundwater monitoring in nitrate vulnerable zones</b> <i>Source: Estonian Environmental Research Centre</i>	3.2%	10 Proportion of groundwater monitoring stations where exceedances of limit values have been detected is less
<b>Percentage of samples with residues of plant protection products above the maximum level in food of Estonian origin</b>	0%	11 12 Percentage of samples exceeding maximum levels in food of Estonian origin less
<b>Percentage of referrals due to exposure to plant protection products in the poison centre</b> <i>Source: Health Board</i>	11%	12 Less than 8 % of applications from plant protection products

In addition to the general metrics, the action plan will also be used to assess the effectiveness of non-compliances detected during checks on the marketing and use of plant protection products and on application equipment. The metrics to be used are further described in Chapter 3 of the Action Plan ('Area of action: use, monitoring and surveillance of plant protection products') and 4 ('Area of activity: equipment and technical inspection of equipment'). The assessment of the performance of the action plan is complemented by harmonised risk indicators HRI 1 and HRI 2.

The achievement of the general objective is supported by three sub-sectors.

### I. Awareness raising, training and advice

Awareness-raising

Training and counselling

### II Marketing and sustainable use of plant protection products

On marketing of PPPs

Use, monitoring and surveillance of plant protection products

Integrated pest management

### Plant protection equipment and technical inspection of equipment

## 1 Legal basis and link with other development documents

The Sixth Environment Action Programme, adopted by Decision 1600/2002/EC of the European Parliament and of the Council, committed the European Commission to drawing up a thematic strategy for each programme area. The 13 overall objective of the Thematic Strategy on the Sustainable Use of Pesticides, in accordance with Article 7 of Decision 1600/2002/EC, was to reduce the impact of plant protection products on human health and

Chloridazon and chloridazon dephenyl are excluded<sup>9</sup> from the meter.

<sup>10</sup><https://kese.envir.ee/kese/viewProgramNew.action?uid=473789>

<sup>11</sup><https://pta.agri.ee/pta-aasta-aruanne>

<sup>12</sup> The metric counts as the baseline for rotations due to exposure to plant protection products to the Toxic Information Centre hotline 16 662 in 2023

<sup>13</sup><https://eur-lex.europa.eu/legal-content/ET/TXT/?uri=CELEX:52007IP0467>



the environment; the aim remains to achieve a more sustainable use of plant protection products and to reduce the use and risks of plant protection products. The objective set out in the General Environment Action Programme of the European Union to 2030 adopted in 2022 is to achieve zero pollution, including for harmful chemicals, and to protect human and animal health and welfare and the health of ecosystems against environmental risks and negative impacts<sup>15</sup>.

The impact assessment of the Thematic Strategy concluded that the introduction of new legislation is the most effective way to implement the Strategy's actions. Consequently, the following acts were adopted in 2009:

- Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC;
- Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides;
- Directive 2009/127/EC of the European Parliament and of the Council of 21 October 2009 amending Directive 2006/42/EC with regard to machinery for pesticide application<sup>16</sup>.
- Regulation (EC) No 1185/2009 of the European Parliament and of the Council of 25 November 2009 concerning statistics on pesticides<sup>17</sup>;
- Regulation (EU) 2023/564 of the European Parliament and of the Council of 10 March 2023 on the content and format of data on plant protection products kept by professional users<sup>18</sup>

According to paragraph 5 of the preamble to Directive 2009/128/EC, Member States should use national action plans to:

- establish quantitative targets, targets, measures, timetables and indicators to reduce the risks and impacts of the use of plant protection products on human health and the environment; and
- encourage the development and introduction of integrated pest management and alternative approaches or techniques to reduce dependency on the use of plant protection products.

Member States should also monitor the use of plant protection products containing active substances of particular concern and establish timetables and targets to reduce their use, in particular where this is an appropriate means of achieving the risk reduction targets.

Directive 2009/128/EC also sets out the measures to be included in the action plans of the Member States. The main measures relate to training of users, advisors and distributors, technical inspection of plant protection product application equipment, aerial spraying, restrictions on the use of plant protection products in sensitive areas, and information and awareness-raising on the risks associated with plant protection products. The NAPs describe how the measures will be implemented to achieve the objectives of the Directive.

In 2017, the European Commission prepared a report to the European Parliament and the Council on Member States' National Action Plans and progress on the implementation of Directive 2009/128/EC on the sustainable use of pesticides<sup>19</sup>. It states that there are shortcomings in Member States' plans in many areas. The Commission concluded that, in particular, specific and measurable targets and indicators should be established

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14 <https://eur-lex.europa.eu/legal-content/ET/TXT/?uri=CELEX:32022D0591>

15 <https://eur-lex.europa.eu/legal-content/ET/TXT/HTML/?uri=CELEX:32022D0591#d1e615-22-1>

16 <https://eur-lex.europa.eu/legal-content/ET/TXT/HTML/?uri=CELEX:32009L0127>

17 <https://eur-lex.europa.eu/legal-content/ET/TXT/HTML/?uri=CELEX:32009R1185>

18 <https://eur-lex.europa.eu/legal-content/ET/TXT/HTML/?uri=CELEX:32023R0564>

19 <https://eur-lex.europa.eu/legal-content/ET/ALL/?uri=CELEX:52017DC0587>

for a longer-term action plan to reduce the risks and impacts of the use of plant protection products. In addition, the Commission considered that it should be possible to continuously monitor progress and adjust the Action Plan if necessary. This Action Plan puts an important focus on addressing these shortcomings. A report published by the European Court of Auditors in 2020 acknowledges the slow progress in reducing plant protection products in the Member States; at the same time, proposals will be made to the European Commission on how to increase the use of ICS techniques, improve and harmonise the collection of statistics on sales and use of plant protection products and improve the risk indicator used<sup>20</sup>.

The action plan is drawn up on the basis of Section 79<sup>(3)</sup> of the Plant Protection Act, which provides that the REM is to draw up an action plan for the sustainable use of plant protection products, which sets out the measures to be used to reduce the risks and impacts of the use of plant protection products on human health and the environment and the timetable for their implementation, and which encourages the development and implementation of ICS principles and other measures.

## 1.1 Plant Protection Act

The Plant Protection Act was adopted by the Riigikogu in 1994. Subsequently, implementing acts were also introduced, which governed the obligations of land users when carrying out plant protection work and the use of chemical plant protection products and were one of the means of reducing the risks associated with the use of plant protection products. Plant protection legislation has been amended several times; major changes were made in 2000 and 2004. The major changes were made in 2004 and were mostly due to the need to harmonise Estonian legislation with EU legislation, including Council Directive 91/414/EEC of the European Union, the place where plant protection products are placed on the market<sup>21</sup>. The most recent major changes were made in 2011 when the Plant Protection Act was amended to bring it into line with Regulation (EC) No 1107/2009 and Directive 2009/128/EC.

The main amendments to the Plant Protection Act, which entered into force since 1 July 2020, were as follows:

- the liability provisions for non-compliance with the requirements for the marketing and use of a plant protection product have been amended to allow the initiation of misdemeanour proceedings also in case of non-compliance with the requirements for marketing or use of a product authorised on the market (previously there were liability provisions for the marketing or use of a non-authorised plant protection product);
- an obligation to collect and make public data related to harmonised risk indicators for plant protection products and active substances was added.

## 1.2 Related strategic documents

The objectives of the Action Plan relate mainly to the following EU and national development and action plans and other strategic documents:

### European Green Deal 22

It is a new growth strategy that aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use. It also aims to protect, conserve and enhance the EU's

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<sup>20</sup><https://www.eca.europa.eu/en/publications?did=53001>

<sup>21</sup><https://eur-lex.europa.eu/legal-content/ET/TXT/?uri=CELEX:31991L0414>

<sup>22</sup><https://eur-lex.europa.eu/legal-content/ET/TXT/PDF/?uri=CELEX:52019DC0640&qid=1693555905204>

natural capital, and protect the health and well-being of citizens from environment-related risks and impacts.

The national CAP Strategic Plans to be drawn up must fully reflect the objectives of the Green Deal and the Farm to Fork Strategy. Strategic plans are assessed against robust climate and environmental criteria and should lead to sustainable practices such as precision farming, organic farming, agro-ecology, agroforestry and higher animal welfare standards. Strategic plans need to reflect the increased ambition to reduce both the use and potential risks of chemical plant protection products and the use of fertilisers and antibiotics. The area under organic farming will also need to increase in Europe. The EU must develop innovative methods to protect crops from pests and diseases and consider the potential role of new, innovative technologies in improving the sustainability of the food system, while ensuring their safety.

### **A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food systems 23**

The strategy calls for reducing dependency on plant protection products and antimicrobials, reducing excessive fertilisation, increasing organic farming, improving animal welfare and reversing biodiversity loss.

Farmers need to change their production methods more quickly and make the best use of near-nature, technological, digital and space-based solutions that help achieve better climate and environmental outcomes, increase climate resilience and reduce and optimise the use of inputs (e.g. plant protection products, fertilisers).

The Commission will take further action to reduce the overall use and risk of chemical plant protection products by 50 % and the<sup>24</sup> use of more hazardous plant protection products by 50 % by 2030. The Commission will review the Sustainable Use of Pesticides Directive, strengthen the provisions on integrated pest management and promote a wider use of safe alternative ways to protect crops from pests and diseases. Agricultural practices that reduce the use of plant protection products through the CAP are of paramount importance and strategic plans should reflect this transition and facilitate access to advice. The Commission will also facilitate the placing on the market of plant protection products containing biological active substances and enhance the environmental risk assessment of plant protection products. The Commission is also proposing to amend the 2009 Regulation on statistics on plant protection products to promote evidence-based policymaking.

### **EU Biodiversity Strategy for 2030 25**

As guardians of our land, farmers play a vital role in preserving biodiversity. Biodiversity makes it possible to produce safe and nutritious food in a sustainable way, as well as to generate the income needed to thrive and thrive. European farmers are an essential part of the EU's future and must continue to be the social and economic hub of many communities across our Union. It is important to work with farmers to support and facilitate the transition to sustainable farming practices. Improving and diversifying agro-ecosystems will help increase the sector's resilience to climate change, environmental risks and socioeconomic challenges, while creating new jobs.

In addition to the Farm to Fork Strategy, the commitments set out the following actions:

- reverse the decline of pollinators;

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<sup>23</sup><https://eur-lex.europa.eu/legal-content/ET/TXT/PDF/?uri=CELEX:52020DC0381>

While the<sup>24</sup> Farm to Fork Strategy addresses the reduction of more hazardous plant protection products, it does not define them. According to the European Commission's draft Regulation on the sustainable use of plant protection products, more hazardous plant protection products are those containing one or more active substances approved as candidates for substitution in accordance with Article 24 of Regulation (EC) No 1107/2009 of the European Parliament and of the Council and listed in Part E of the Annex to Commission Implementing Regulation (EU) No 540/2011 or containing one or more active substances listed in the Annex to Commission Implementing Regulation (EU) 2015/408.

<sup>25</sup><https://eur-lex.europa.eu/legal-content/ET/TXT/?uri=CELEX%3A52020DC0380>

- ensure that at least 10 % of agricultural land is covered by high-diversity landscape features;
- ensure that the uptake of agro-ecological practices is significantly increased.

### **EU Soil Strategy<sup>26</sup>**

The Soil Strategy must help improve soil health, guide the sustainable use of soils and, where appropriate, involve legal protection in their use. The strategy aims to increase the soil carbon content of agricultural land, combat soil degradation, restore degraded land and soil and ensure that all soil ecosystems are healthy by 2050.

### **Country-wide plan “Estonia 2030+”<sup>27</sup>**

One of the objectives of the national plan ‘Estonia 2030+’ is to avoid unintended effects on the environment; this also overlaps with one of the objectives of the Action Plan for the Sustainable Use of Plant Protection Products.

### **Estonia 2035 strategy<sup>28</sup>**

Strategic objective: The Estonian economy is responsible for people and nature. There is a secure economic environment conducive to flexible, innovative and responsible entrepreneurship and fair competition. The valorisation of local resources has increased and the use of natural resources takes into account both biodiversity conservation and socio-economic impacts. The living environment is of high quality and is planned to preserve heritage and nature biodiversity.

We make the living environment and people’s attitudes and behaviours that preserve health and the environment and reduce risky behaviour. We ensure the safety of products, chemicals, drinking water and medicines, and improve access to high-quality food.

### **Common Agricultural Policy Strategic Plan 2023-2027<sup>29</sup>**

The European Union’s Common Agricultural Policy (CAP) Strategic Plan for Estonia 2023-2027 (CAP Plan) is the main instrument for implementing the European Union’s common agricultural policy in Estonia for 2023-2027. The CAP plan has been prepared on the basis of both the state of the environment in Estonia and the objectives of the EU Green Deal, in particular the Biodiversity and Farm to Fork Strategies.

28 % of the CAP plan budget targets specific objectives contributing to climate change mitigation and adaptation, promoting sustainable development and the efficient management of soil, water and other natural resources, biodiversity, ecosystem services, habitats and landscapes.

### **Development plan for agriculture and fisheries until 2030<sup>30</sup>**

The objective of the development plan is to contribute to the development and competitiveness of Estonia’s agriculture, fisheries, aquaculture and food industry, the balanced development of rural and coastal areas, the maintenance of good plant and animal health, food safety and the preservation of a clean environment and species diversity.

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<sup>26</sup><https://eur-lex.europa.eu/legal-content/ET/TXT/?uri=CELEX:52021DC0699>

<sup>27</sup><https://www.rahandusministeerium.ee/et/ruumiline-planeerimine>

<sup>28</sup>[https://valitsus.ee/strateegia-est-2035-arengukavad-ja-planeering/strateegia/materjalid?view\\_instance=0&current\\_page=1](https://valitsus.ee/strateegia-est-2035-arengukavad-ja-planeering/strateegia/materjalid?view_instance=0&current_page=1)

<sup>29</sup><https://www.agri.ee/euroopa-liidu-uhise-pollumajanduspoliitika-strateegiakava-2023-2027>

<sup>30</sup><https://www.agri.ee/et/pollumajanduse-ja-kalanduse-valdkonna-arengukava-aastani-2030>

### **Estonia's environmental strategy to 2030 31**

The environmental strategy defines long-term trends to maintain the entire living environment in good condition.

### **Climate Adaptation Development Plan until 2030 32**

The strategic objective of the Climate Adaptation Development Plan is to increase Estonia's national, regional and local level's readiness and capacity to adapt to the impacts of climate change. In agriculture, the challenge of adaptation is the application of environmentally friendly plant and livestock technologies.

### **Environment Development Plan 2030 (under preparation) 33**

The development plan shall set environmental development objectives and describe how to achieve them. Estonia's long-term vision for the environment is to shape Estonia with a clean and biodiverse environment. Sub-objectives of the development plan:

- Estonia's nature is preserved and rich in life;
- the economy and land use are in line with the need to promote biodiversity;
- Estonia has a good groundwater and surface water status, people are provided with clean drinking water and flood risks have been managed;
- healthy soils are ensured in order to maintain biodiversity and soil productivity, maintain carbon stocks and ensure the necessary benefits for society.

### **Population Health Development Plan 2020-2030 34**

It aims to maintain and improve people's health, extend their lives, reduce premature morbidity and mortality, and reduce health inequalities between different population groups.

### **Action Plan for the Green Transition 2023-2025 35**

A plan to reduce negative environmental impacts, create a modern and high-quality living environment and support competitive and green entrepreneurship.

## **2 Activity I: awareness raising, training and counselling**

### **2.1 Sub-area 2: awareness-raising**

#### **2.1.1 State of play**

PPPs involve exposure of a wide range of interests, ranging from importers to various companies in the neighbourhood of plant protection product users, such as honey or organic producers, who have a specific interest in what happens in their surroundings.

The process of authorising plant protection products on the market and the use of the product are regulated in considerable detail by legislation, but there are aspects that may cause problems if the communication between the parties does not work. Not only professional users of plant protection products, but also non-professional users (e.g. home gardens) must be informed, but also the general public, who must have balanced information on the environmental and health risks associated with plant protection products, as well as on the general

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31<https://www.riigiteataja.ee/akt/12793848>

32<https://kliimaministeerium.ee/kliimamuutustega-kohanemise-arengukava>

33<https://kliimaministeerium.ee/kevad>

34<https://sm.ee/rahvastiku-tervise-arengukava-2020-2030>

35<https://valitsus.ee/media/5657/download>

requirements for the marketing and use of plant protection products. Each year, at the beginning of the peak season of plant protection operations, the AFB disseminates general information on the requirements for plant protection work. The lack of public awareness of the requirements related to plant protection products leads to misunderstandings and therefore unfounded complaints, among others, are submitted to control bodies.

Since the entry into force of the amendment of the Plant Protection Act on 26 November 2011, the PTA has been responsible for communicating information on plant protection products to the general public. It is also the responsibility of the distributor of a plant protection product to provide the non-professional user with relevant information on the use and storage of the plant protection product. In the register of plant protection products, leaflets for plant protection products authorised to be placed on the market and used in Estonia, which contain safety information (t), have been published<sup>37</sup>.

General information on plant protection products is available on the following websites:

- <https://agri.ee/toiduohtus-taime-ja-loomatervis/taimekasvatus-ja-tervis/taimekaitse>
- <https://pta.agri.ee/pollumehele-ja-maamanikule/taimekasvatus/taimekaitse>
- <https://teabesalv.pikk.ee/taimekasvatus/taimekaitse>
- <https://metk.agri.ee/taimekaitse>

In order to raise public awareness of the use of plant protection products, related environmental and health risks and risk mitigation options, a total of 35 articles on PPPs were published in popular scientific publications and blogs between 2019 and 2021<sup>38</sup>. This information must certainly also reach non-professional users of plant protection products and the general public. Awareness of the environmental and health risks associated with the use of plant protection products needs to be constantly raised.

In 2010, a good practice of mutual communication between the AFB, beekeepers and farmers was developed between the user of the plant protection product and the beekeepers, i.e. ten instructions each<sup>39</sup>. In 2017, the AFB cooperation guide for action to detect increased bee mortality was adopted, most recently complemented in L2023<sup>40</sup>. The AFB has also prepared a leaflet for the user and beekeeper of the plant protection product entitled 'Bluekeepers and plant protection – who must do what, what and how'<sup>41</sup>. Roundtables of officials from the EPCC, apiculture organisations, the AFB and the Ministry have been held on a regular basis, where activities and outreach activities have been agreed for the coming period. Whereas cooperation on the protection of bees has been effective; during the 2019-2023 period, no bee colonies were killed as a result of known plant protection operations. In the period 2014-2018, an average of one colony mortality from plant protection products was recorded per year.

Unlike professional users, non-professional users are not required to undergo plant protection training, so they may not always use chemical plant protection products in a prudent and proper manner, especially given that they are easily available in retail and do not always lead to balanced advice when purchasing. Non-professionals are also expected to be less aware of the principles of ICT and their actual implementation compared to professional users.

The exchange and collection of poisoning information on poisonings is carried out by the Poison Centre

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<sup>36</sup><https://pta.agri.ee/uudised/taimekaitsetoodel-tuleb-jargida-ohutusnoudeid>

<sup>37</sup><https://portaal.agri.ee/avalik/#/taimekaitse/taimekaitsevahendid-otsing/et>

<sup>38</sup> 'Action Plan on the sustainable use of plant protection products 2019-2023' Mid-term review 2019-2021

<sup>39</sup>[http://www.mesinikeliit.ee/failid/Taimekaitsetoode\\_head\\_tavad.pdf](http://www.mesinikeliit.ee/failid/Taimekaitsetoode_head_tavad.pdf)

<sup>40</sup><https://pta.agri.ee/taimekaitse-ja-mesindus>

<sup>41</sup><https://pta.agri.ee/media/2259/download>



(16662ee) under the Ministry of Social Affairs, which aims to have information on poisonings and to ensure that it is available to the population and medical staff. The poison centre hotline receives 24/7 information on behaviour in poisoning incidents (including those involving plant protection products). The poison centre website provides information to the general public about poisonings related to plant protection products<sup>42</sup>.

In 2017, the Estonian Plant Farming Institute carried out a study on the use of 43 plant protection products in Estonian kitchen gardens and non-agricultural enterprises. The study included two surveys for different target groups: one for amateur gardeners who use plant protection products in home gardens (61 respondents to the survey) and one for non-agricultural companies (respondents 10). The study concludes that the awareness of small gardeners and non-farms about the correct use and handling of PPPs has improved compared to 2009, but there are still aspects that are still insufficiently addressed (e.g. importance of the use of personal protective equipment). It is necessary to carry out a new study on the awareness of users of plant protection products, possibly involving the horticultural and apiculture associations. The AFB has prepared memoranda for the use of the plant protection product on both agricultural and non-agricultural companies<sup>44</sup> and has sent letters of formal notice each year to local authorities, the Road Administration, railway keepers, greening companies and bearers to draw attention to existing requirements for the use of plant protection products.

By Decision No 163 of the Tallinn City Council of 1 November 2018, the City of Tallinn has joined the European Network of Pesticide-Free Cities. The cities that have joined the network commit to significantly reduce and phase out the use of plant protection products in public areas of the city over a period of three years, in order to protect human health and the environment and improve quality of life. The study on the use of plant protection products carried out in 2019 is the basis for the action plan to reduce PPP use in public areas in Tallinn, which includes quantitative targets, timelines and measures to gradually reduce the use of plant protection products. In addition, the Action Plan includes information campaigns to raise citizens' awareness of the risks of plant protection products and sustainable alternatives<sup>45</sup>. In Tallinn, there is also a plant protection guidance material on the use of non-chemical agents in greening<sup>46</sup>. It is currently an indicative document, but it is envisaged to make it mandatory in the near future. In 2023, Tallinn was the European Green Capital.

#### 2.1.1.1 Bottlenecks

- Limited availability of balanced information on plant protection products, their use and related environmental and health risks;
- there is a lack of public awareness of the risks to the environment and health associated with the use of plant protection products, as well as of the need for, and requirements for, and the plant protection situation for the use of plant protection products.

#### 2.1.2 Objectives

**BALANCED INFORMATION ON SAFE USE OF PLANT PROTECTION PRODUCTS AND RISKS TO THE ENVIRONMENT AND HEALTH ASSOCIATED WITH PLANT PROTECTION PRODUCTS IS AVAILABLE TO THE GENERAL PUBLIC.**

The achievement of the objectives of the Awareness Sub-area will be assessed through metrics in other areas

<sup>42</sup><https://www.16662.ee/et/murgistusriskid/murgistused-kemikaalidest/taimekaitsevahendid>

<sup>43</sup> Use of plant protection products in kitchen gardens and non-agricultural use: <https://www.pikk.ee/wp-content/uploads/2018/04/Taimekaitsevahendite-kasutamise-koduadades-ja-non-p%C3%B5llue-economic-use-1.pdf>

<sup>44</sup><https://pta.agri.ee/integreeritud-taimekaitse>

<sup>45</sup>[https://uuringud.tallinn.ee/file\\_download/1010](https://uuringud.tallinn.ee/file_download/1010)

<sup>46</sup><https://www.tallinn.ee/et/media/428774>

of activity.

### 2.1.3 Planned activities

- Raise public awareness of plant protection, including the reasons for the use of plant protection products and the impact of plant protection products on human health and the environment. Record short videos on the topic.
- Consistently publish and update information in the field of plant protection (including updating the REM, AFB and METK websites), including on the work carried out and the results achieved under the Action Plan on the Sustainable Use of Plant Protection Products.
- Promote the use of ICS-based and, where possible, non-chemical control techniques for the maintenance of public areas managed by the municipality.

## Sub-area 2.2: training and counselling

### 2.2.1 State of play

The target groups in the training and advice sub-area are distributors of plant protection products, professional users and advisors.

The requirements for the plant protection training programme, the subjects to be dealt with in plant protection training and the duration of the training have been approved by Regulation No 67 of the Minister for Agriculture of 18 November 2013. Since 2013, professional users, advisors and distributors of plant protection products have to undergo plant protection training. The plant protection certificate is issued by the PTA and is valid for five years. Persons whose plant protection certificate is due to expire and who wish to apply for a new certificate must demonstrate their competence in the field of plant protection.

In the 2019-2023 period, the training institutions organised a total of 281 plant protection training courses and 4686 plant protection certificates were issued. As of 30 May 2024, 4323 were in force in Estonia professional user certificates, 430 valid distributors' certificates and 39 valid advisor certificates. Plant protection training is organised in Estonia by the following authorities: R pina horticulture school, J rvamaa Vocational Education Centre, Luua Forest School, Estonian University of Life Sciences Institute for Agriculture and Environment and Olustvere Technical and Rural Economy School. Training providers in plant protection training took one information day each year in the period 2019-2023.

	2019	2020	2021	2022	2023
<b>Number of plant protection trainings</b>	52	52	58	63	56
<b>Number of plant protection certificates</b>	807	940	993	1023	923

Source: AFB

#### 2.2.1.1 Training

Plant protection training plays an important role in reducing the risks associated with the use of plant protection products. Inexpensive and negligent handling of plant protection products can cause harm to both humans and the environment. In addition to the risks to health and the environment, exceeding or not complying with the standards of use specified in the authorisation of a plant protection product may result in significant loss of yield.

Plant protection training programmes and educational materials need to be continuously updated in light of changes in legislation, availability of plant protection products and scientific and technical developments in plant protection. The plant protection training programme and the topics to be addressed must take into account the

<sup>47</sup><https://www.riigiteataja.ee/akt/120112013005>



specificities of the target group (distributors, professional users, advisors). In further training programmes for plant protection training, it is important to pay attention to the knowledge of pests and all relevant control methods, including non-chemical methods.

There is no post-increase of current plant protection trainers. There are currently seven trainers to cover Estonia's needs. Additional trainers are needed in case someone leaves the current trainers who have no substitutes. E-training solutions need to be developed.

Although there is no obligation for non-professional users of plant protection products (e.g. small gardeners) to complete plant protection training, it is expedient to provide them with the possibility to undergo plant protection training.

### 2.2.1.2 Counselling

Until 2023, the Advisory Service was organised by the Rural Development Foundation in Estonia, and in 2023 the Rural Knowledge Centre (METK) took over the organisation of the advice. As of 2023, a total of 37 advisors had received a plant protection certificate according to METK. No training for advisors took place in 2021-2023, one training took place in 2024 and 19 plant protection certificates were issued to advisors. As of 2024, 16 crop and plant protection consultants were employed under METK. In addition to METK's contractual staff, plant protection training was also provided by other organisations/authorities or independent consultants.

		2019	2020	2021	2022	2023	2024
<b>Trained in plant protection and holding a certificate</b>	44	37	37	37	39		
<b>number of advisors</b>	37						

Source: AFB

Significant changes have been made to the organisation of the advisory system, which should increase the number of advisors in the plant protection area and ensure wider availability of independent advice. According to the 'Agriculture and Fisheries Development Plan 2030', the role of the State is, in particular, to create a favourable and stable environment for the succession of advisors, to train advisors and to ensure the availability of qualified advice on specific topics. The advisory service shall provide up-to-date information developed on the basis of research and innovation projects and technological information.

As of early 2024, the Regulation of the Minister for Regional Affairs "Support for the provision of advisory services for the period 2023-2027" was implemented<sup>48</sup>. Under the Regulation, the range of advisors was significantly expanded. Advisors are consultants holding a qualification level 5-7 and unqualified experts (teachers, researchers, experienced practitioners, participants in a follow-up programme for advisors, etc.) provided that the quality and impartiality of the services are ensured. The list of Advisory Service Providers maintained by METK includes advisors who are independent and have completed an annual training or training appropriate to a total of 25 hours of advice each year. The plant protection adviser must have completed appropriate plant protection training. The subsidised advisory services may not be provided by a self-employed person or an employee of his undertaking, or by a member of the board of directors of the company, by any other person entitled to manage the company or by an employee of a company engaged in the sale of veterinary medicinal products, fertilisers, plant protection products or agricultural equipment and the buying-in of agricultural products.

Since 2024, the Advisory Service Support Unit has been transferred to the Rural Knowledge Centre. Advisory services and advisors form part of the integrated agricultural knowledge and *innovation system (hereinafter referred to as AKIS English agricultural knowledge and innovation system)*. The AKIS Action Plan for the period

<sup>48</sup> Regulation No 113 of the Minister for Regional Affairs of 27 December 2023 'Support for the provision of advisory services for the period 2023-2027': <https://www.riigiteataja.ee/akt/129122023024>

2023-2027 has been approved by Ministerial Decree<sup>49</sup>. Advisory Service Providers and Advisory Services are integrated into AKIS to ensure coherent organisation and knowledge flows between people, organisations and institutions. With the support of interventions in the new period, the role of advisors in AKIS as a whole should become more visible.

In providing the advisory service, METK's tasks<sup>50</sup> maintain a list of advisors providing advisory services, to ensure the availability of innovation advice, to enable the use of digital solutions, to coordinate the training of advisors both in Estonia and abroad, and to implement a follow-up programme for advisors, collect and analyse feedback received during the provision of the advisory service. The training of consultants and advisors develops not only sectoral knowledge but also technological, financial, methodological and social knowledge and pays attention to innovation and the use of digital technologies. The number of consultants related to plant protection will change from year to year and it will not be possible to organise thematic initial or in-service training with contact groups every year, leading to the launch of e-learning material in 2024.

Advisory support shall be provided to modernise the agricultural and rural economy and the agricultural processing sector, to increase productivity through the promotion and sharing of knowledge, innovation and digitalisation, and to encourage the uptake of knowledge, innovation and digital solutions.

The main target group for advisory services will continue to be producers active in agriculture and the rural economy (excluding fisheries, hunting) but also processors of agricultural products. Particular attention shall be paid to young start-ups. Start-up or developmental undertakings (e.g. processing from primary production) have a high need for advice, but financial possibilities are mostly limited in terms of investment in fixed assets.

#### 2.2.1.2.1 Bottlenecks

- Keeping plant protection training (including teaching materials) up to date and at a uniform level;
- ensuring the after-growth of plant protection trainers;
- lack of availability of balanced advice.

#### 2.2.2 Objectives

**DISTRIBUTORS, PROFESSIONAL USERS AND ADVISORS OF PLANT PROTECTION PRODUCTS ARE COMPETENT IN THE FIELD OF PLANT PROTECTION. FARMERS ARE GUARANTEED ACCESS TO ADVISORY SERVICES TO SUPPORT THE SUSTAINABLE USE OF PLANT PROTECTION PRODUCTS.**

The achievement of the objectives of the training and advisory sub-area will be assessed through metrics in other areas of activity.

#### 2.2.3 Planned activities

- Update the principles of plant protection training and agree on a common approach to online training;
- support the after-growth of plant protection trainers;
- update the competences of plant protection training organisers, including updating and updating the educational materials needed to organise plant protection training;
- develop training material on more recent ICS techniques;

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Order No 74 of the<sup>49</sup> Minister for Rural Affairs of 30 May 2023 'Provision of support for the development of the knowledge transfer and innovation system and approval of the overall action plan for the Agricultural Knowledge and Innovation System of the Rural Knowledge Centre and the 2023 operational programme'

50 AKIS 2024 Action Plan: <https://metk.agri.ee/vorgustikud-innovatsioon/akis/tegevuskava>

- depending on the need to organise regular training for distributors, professional users and advisors of plant protection products;
- provide educational videos on the sustainable use of plant protection products for farmers and users of plant protection products;
- make plant protection training available to non-professional users;
- ensure the availability of an independent plant protection advisory service when developing advisory services.

### 3 Activity II: marketing and sustainable use of plant protection products

#### 3.1 Sub-area 2: on marketing of PPPs

##### 3.1.1 State of play

In accordance with Regulation (EC) No 1107/2009, the list of active substances authorised for use in plant protection products is set out in the Annex to Commission Implementing Regulation (EU) No 540/2011. However, for safety reasons, the approval period of the active substance is limited in time and the initial approval is granted for up to 10 years, followed by a re-evaluation of the active substances. If the active substance meets the requirements, the approval period shall be extended by a maximum of 15 years following the re-evaluation. A plant protection product containing a low-risk active substance shall first be authorised for a period of 15 years ((EC) No 540/2011, D)<sup>52</sup>. Due to the tightening of the criteria, many plant protection products containing pre-approved active substances are no longer authorised on the market as a result of the re-evaluation. For all active substances authorised on the market in the European Union, a database has been compiled<sup>53</sup>.

The criteria for processing the authorisation of plant protection products at national level are established at EU level and six different authorisations can be granted. Regulation (EC) No 1107/2009 amended the authorisation criteria by adding new possibilities for authorisation. Long waiting times for the placing on the market of plant protection products have been a problem for many years. In order to speed up the process, the AFB has increased the team of risk assessors and introduced changes in the organisation of work<sup>54</sup>. Due to the needs of the sector, new products have been added to the Estonian register and producers have therefore had less need to apply for a special authorisation (emergency authorisation for plant protection products for 120 days).

In order to facilitate the registration of biological plant protection products and low-risk active substances, a shorter time limit has been introduced for the authorisation of low-risk plant protection products (Article 47 of Regulation 1107/2009).

The purpose of the legislation on the use of plant protection products is to ensure that only plant protection products authorised in Estonia are marketed, that the use of plant protection products is correct and that the presence of residues of plant protection products is within norms and does not pose a risk. In order to minimise risks to health and the environment, it is important to ensure national monitoring of compliance with the requirements for the use of plant protection products.

Distributors of plant protection products must be listed in the register of plant protection products. Guidance on

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Regulation (EC) No 1107/2009 of the<sup>51</sup> European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC: <https://eur-lex.europa.eu/legal-content/ET/TXT/?uri=CELEX:32009R1107>

<sup>52</sup> Commission Implementing Regulation (EU) No 540/2011: <https://eur-lex.europa.eu/legal-content/ET/TXT/?uri=CELEX:32011R0540>

<sup>53</sup> <http://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN>

<sup>54</sup> AFB Annual Activity Report 2022: <https://pta.agri.ee/pta-aasta-aruanded#item-1>

registering the point of distribution of plant protection products and general information for distributors of plant protection products are published on the AFB's website. 55

In recent years, e-commerce of plant protection products has started to spread, thus focusing on websites related to the sale and advertising of plant protection products and checking the correctness of the information provided there. In 2020, the AFB identified a number of weaknesses when checking websites related to the sale and advertising of plant protection products<sup>56</sup>. The most common errors were the offering for sale of plant protection products not registered in Estonia, the erroneous names of plant protection products and the lack of information on the safe use of the products.

Attention must continue to be paid to illegal plant protection products.<sup>57</sup> To prevent risks related to trade in illegal or counterfeit plant protection products and e-commerce, a launch event was held in Tallinn in 2021 for Operation Silver Axe VII, coordinated by Europol, on illegal plant protection products.<sup>58</sup> In 2023, two videos on illegal plant protection products were produced on behalf of the Estonian Plant Protection Association and the MTÜ Taimethaer. 59

<sup>60</sup>According to the PTA register of plant protection products, 448 plant protection products were authorised on the market in Estonia on 10 January 2024, of which 44 were available for free sale and five names<sup>61</sup> were very toxic. The list of plant protection products authorised for marketing and use in Estonia is constantly changing, adding new plant protection products and deleting existing ones. The classification, labelling or conditions of use of the plant protection product or growth regulator may also change. The number of plant protection products registered in Estonia has decreased compared to previous years, due to the ban of several active substances in the European Union and the wish of some authorisation holders not to renew authorisations or active substances for plant protection products. However, Estonia's register of plant protection products improved by 26 new plant protection products in 2019, 18 in 2020, 23 in 2021, 25 in 2022 and 31 new plant protection products in 2023. The AFB considers priority and works in cooperation with agricultural organisations to allow plant protection products needed in Estonia to be placed on the market; thus, safer plant protection products are available in agriculture and there is no need to issue specific authorisations (the preferred alternatives are the extension of the use to minor crops and mutual recognition).

Regulation (EC) No 1185/2006<sup>29</sup> concerning statistics on pesticides established a harmonised methodology for the collection of statistical data on sales and use of plant protection products. In accordance with the Regulation, Member States shall submit annual data on the marketing of plant protection products in kilograms of active substances marketed and on the use of plant protection products once per reference period of a maximum of 12 months per five-year period (hectares of crops treated with plant protection products and quantities in kilograms of plant protection products used). Regulations EU 1264/2014 specify<sup>63</sup> the structure for statistical reporting and Regulation (EU) 2017/269 adapts the list<sup>64</sup> of active substances to be included in the statistics.

355 000 tonnes of plant protection products were marketed in the European Union in 2021; marketable quantities

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<sup>55</sup><https://pta.agri.ee/taimekaitsevahendi-turustamine>

<sup>56</sup><https://maablogi.ee/2019/08/30/taimekaitsevahendite-internetist-ostmine-vajab-valvsat-ja-teadlikku-tarbijat>

<sup>57</sup><https://pta.agri.ee/kasuta-ainult-eestis-ametlikult-registreeritud-taimekaitsevahendeid>

<sup>58</sup> AFB's activity report for 2021; <https://pta.agri.ee/pta-aasta-aruanded#item-2>

<sup>59</sup><https://www.facebook.com/100094155835798/videos/664568992124290>

<sup>60</sup><https://portaal.agri.ee/avalik/#/taimekaitse/taimekaitsevahendid-otsing/et>

<sup>61</sup> Very toxic plant protection products may only be used by specially trained persons included in the PPP register as users of very toxic plant protection products.

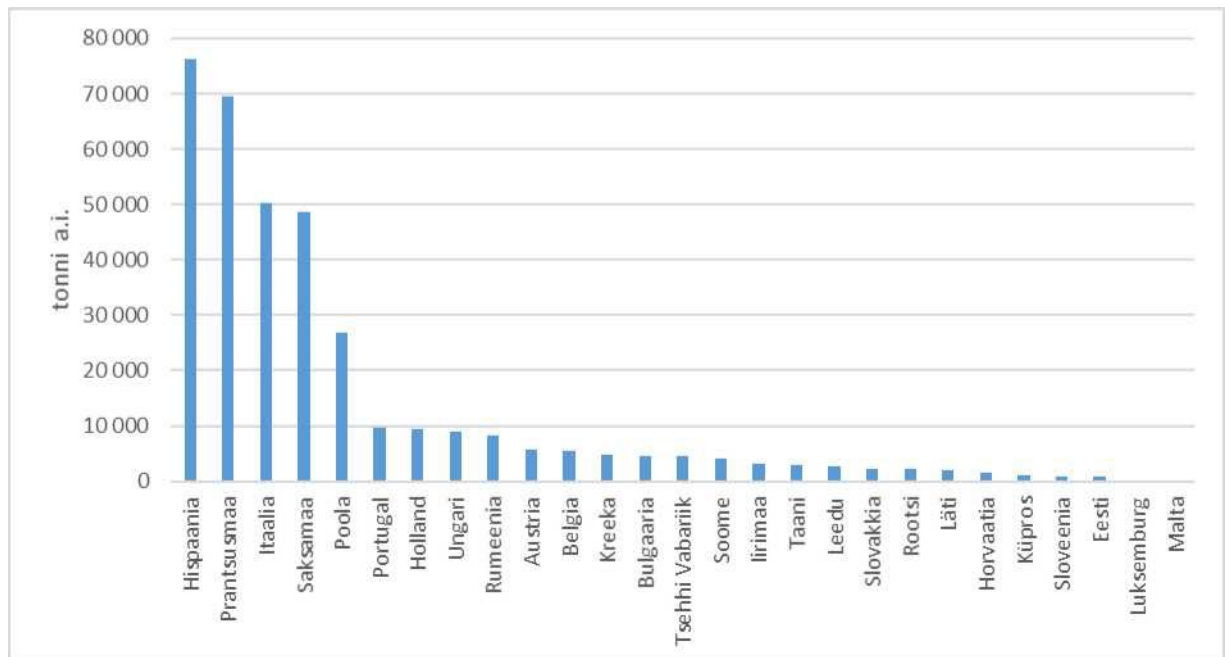
<sup>62</sup><https://eur-lex.europa.eu/legal-content/ET/TXT/?uri=CELEX:32009R1185>

<sup>63</sup>[https://eur-lex.europa.eu/eli/reg\\_impl/2014/1264/oj](https://eur-lex.europa.eu/eli/reg_impl/2014/1264/oj)

<sup>64</sup><https://eur-lex.europa.eu/eli/reg/2017/269/oj>

have remained stable at 350 000 tonnes over the period 2011-2021, fluctuating by  $\pm 6\%$  from year to year.<sup>65</sup> Estonia marketed 777 tonnes of plant protection product nod in 2022<sup>66</sup>, representing only 0.2 % of the quantity of plant protection products marketed in the EU. In 2021, fewer PPPs than Estonia were marketed only in small countries in Luxembourg and Malta (Figure 1).

The quantities of plant protection products marketed in Estonia have been on a steady upward trend since 2011, reaching 777 076 kg of active substance in 2022 (Figure 2). From 461 tonnes in 2011 to 894 tonnes in 2021.



**Figure 1** Quantities of plant protection products marketed in EU countries (tonnes of active substance), 2021  
Source: Eurostat, Statistical Office

Since 2011, data on plant protection products marketed in Estonia have been collected by Statistics Estonia and published in the statistical databases<sup>67</sup>. In 2022, 66 % of the quantity of PPPs marketed was herbicides, 20 % fungicides, 13 % growth regulators and 1 % insecticides (Figure 3). Only 0.1 % of all PPPs marketed in Estonia in 2022 were biological plant protection products and mechanical plant protection solutions.

0.91 kilograms of active substance were marketed in Estonia in 2019, calculated per hectare of agricultural land used; Only Finland, Sweden and Romania recorded lower rates than Estonia (Figure 4). In 2022, the figure was even lower at 0.79 active substances per kilogramme<sup>68</sup>. Compared to 2016, the quantity of PPPs marketed per hectare of agricultural land in Estonia in the following years has been higher only in 2021 (Figure 5). For example, according to Eurostat data, the quantity of PPPs marketed per hectare of agricultural land compared to the Netherlands is close to seven, with Spain more than four, and Poland more than twice as low<sup>69</sup>.

The most widely marketed active substance, glyphosate, has been in the spotlight in recent years. For plant protection products containing glyphosate, the AFB imposed restrictions on sales and use in 2018. Only preparations with a packaging capacity of up to one litre are available on free sale. Larger packaging is intended

<sup>65</sup>[https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Agri-environmental\\_indicator\\_-\\_consumption\\_of\\_pesticides&stabile=1#Analysis\\_at\\_EU\\_and\\_country\\_level](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Agri-environmental_indicator_-_consumption_of_pesticides&stabile=1#Analysis_at_EU_and_country_level)

<sup>66</sup>[https://andmed.stat.ee/et/stat/keskkond\\_pollumajanduskeskkond/KK2085](https://andmed.stat.ee/et/stat/keskkond_pollumajanduskeskkond/KK2085)

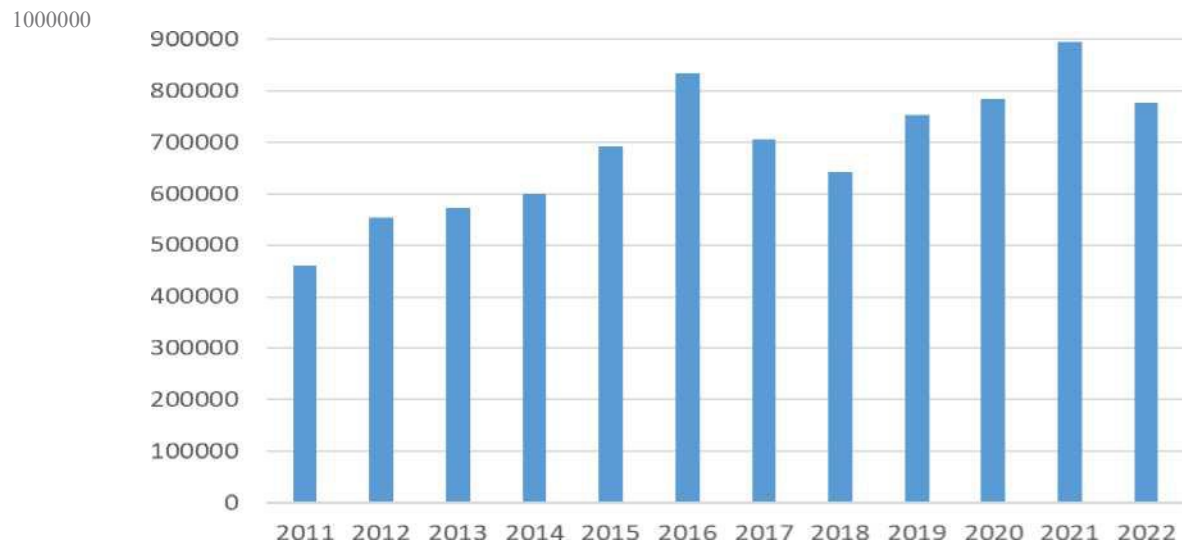
<sup>67</sup>[https://andmed.stat.ee/et/stat/keskkond\\_pollumajanduskeskkond/KK2085](https://andmed.stat.ee/et/stat/keskkond_pollumajanduskeskkond/KK2085)

<sup>68</sup><https://www.stat.ee/et/uudised/2022-aastal-turustatud-taimkaitsevahendite-kogused-langesid>

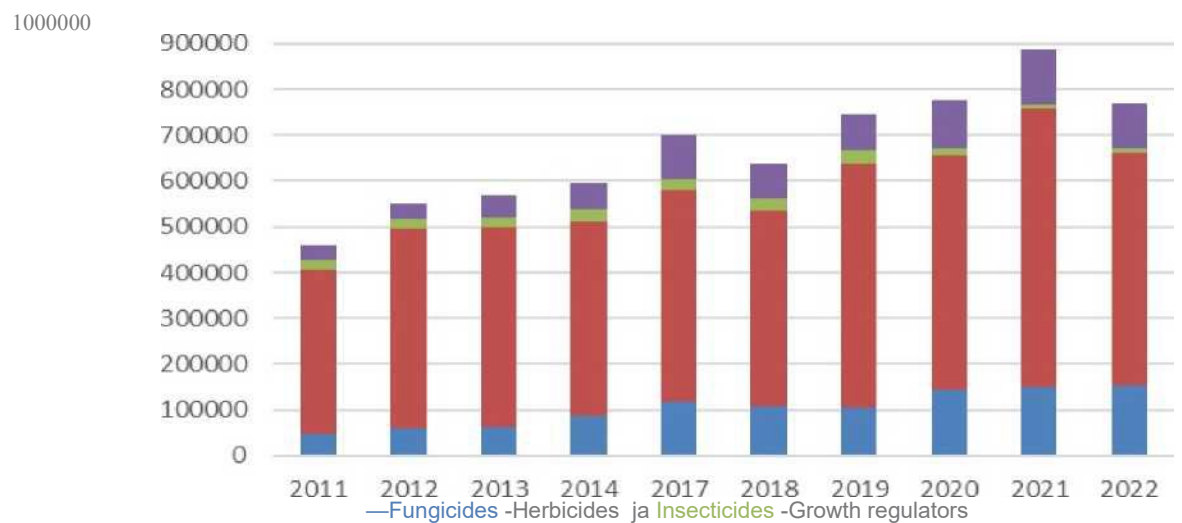
<sup>69</sup> Agronomy 2023: <https://dSPACE.emu.ee/handle/10492/8008>

only for professional users with a valid plant protection certificate. The use of plant protection products containing glyphosate in school areas, children's playgrounds and in the immediate vicinity of healthcare facilities is prohibited. Pre-harvest uses of glyphosate for the purpose of nerves or drying are also prohibited. The leaflets for

plant protection products containing glyphosate were supplemented by information prohibiting spraying during crop flowering and also when flowering weeds are present in the treated area. Other plant protection products marketed in larger quantities, as well as plant protection products whose residues are detected in monitoring, also need attention to prevent problems.

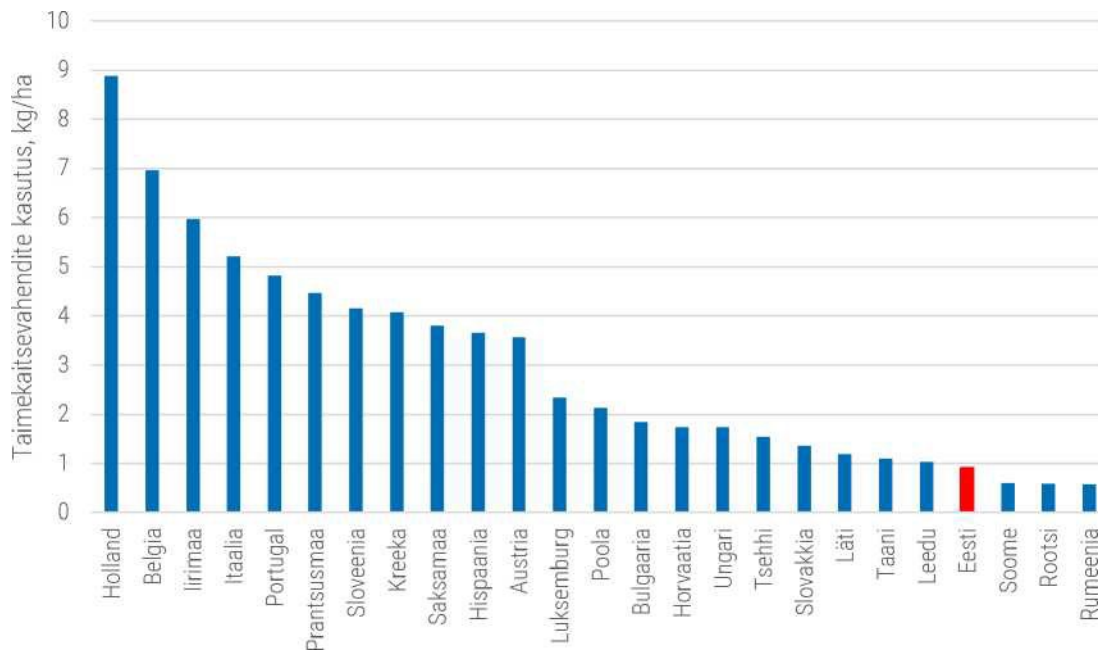


**Figure 2:** Quantities of plant protection products marketed in Estonia (kg active substance) in 2011-2022  
 Source: Statistical Office



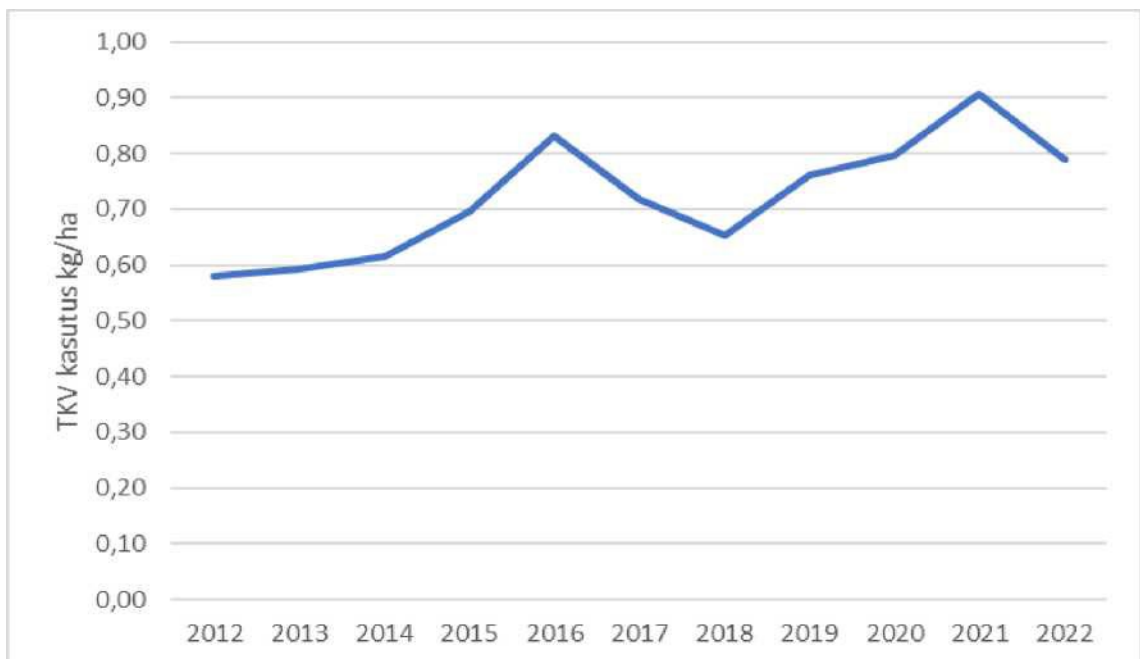
**Figure 3:** Quantities of PPPs marketed in Estonia (kg active substance) by mode of action 2011-2022  
 Source: Statistical Office





**Figure 4:** Use of plant protection products in EU countries in 2019, kg active substance per hectare of arable land

Source: Eurostat, Statistical Office



**Figure 5:** Quantity of plant protection products marketed per UAA in 2012-2022, kg active substance/ha of agricultural land

Source: Statistical Office KK2085 and PM0281

As of 2019, the European Commission started to calculate EU-wide harmonised risk indicators under Directive (EU) 2019/782 to assess trends in risks arising from the use of plant protection products. The indicators will be used to assess progress towards the objectives of the different policies aimed at reducing the impact of plant protection products on human health and the environment. The Directive developed two harmonised risk



[indicators](#) (t)70.

The harmonised risk indicator HRI 1 (Harmonised Risk Indicator 1) is based on statistics collected on the quantities of active substances placed on the market under [Regulation \(EC\) No 1107/2009](#) and on [Annex I to Regulation \(EC\) No 1185/2009 \(statistics on the placing of plant protection products on the market\)](#), on which the corresponding data are reported to the Commission. In Estonia, data on marketed plant protection products are collected by [Statistics Estonia](#) and published in the [statistical database](#). HRI 1 is based on the quantities of active substances placed on the market in a Member State during the reference period and is expressed as an index. The reference period is from 2011 until the last year for which information on marketed quantities is available. HRI 1 is obtained by multiplying the 71 annual sales quantities of each group of active substances (a) by the respective weighting factor and adding up the results obtained. The HRI 1 dynamics are shown in Figure 6.

The harmonised risk indicator HRI 2 (Harmonised Risk Indicator 2) is based on the number of specific authorisations for plant protection products under [Article 53 of Regulation \(EC\) No 1107/2009](#) submitted to the Commission in accordance with [Article 53\(1\) of that Regulation](#). HRI 2 is obtained by multiplying the number of specific authorisations by the weighting factor for each active substance group and by adding the results obtained. The HRI 1 dynamics are shown in Figure 7.

Both risk indicators refer to active substance categories as defined by [Directive EU 2019/782](#). The baseline for both risk indicators shall be averaged over the years 2011-2013 and the risk profile of the active substances shall be taken into account in the calculation of the indicators. The indicators make it possible to identify trends and identify active substances that require more attention. Harmonised risk indicators complement indicators to assess the achievement of the objectives of the action plan. Every year, under the Sustainable Use of Plant Protection Products Directive, the REM prepares a report to the European Commission on the use and impact of PPPs<sup>73</sup>.

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<sup>70</sup><https://pta.agri.ee/uhtlustatud-riskinaitajad>

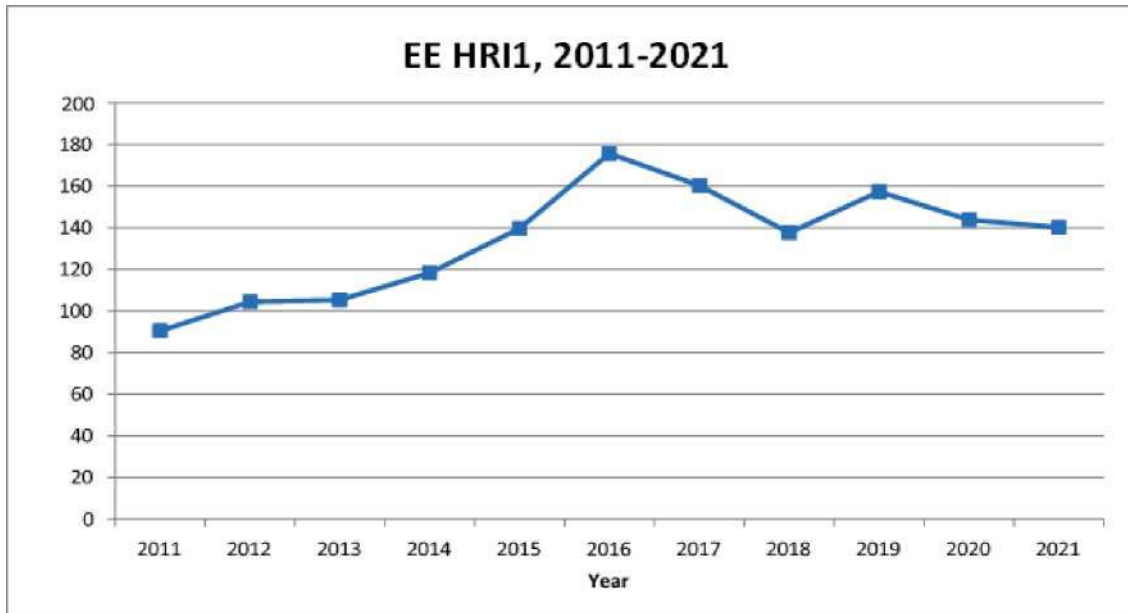
According to <sup>71</sup> Directive EU 2019/782, active substances are divided into four groups, with a specific weighting factor corresponding to each group. According to the classification of active substances, these four groups are further divided into seven categories.

- Group 1 – low-risk active substances approved or deemed to have been approved in accordance with Article 22 of Regulation (EC) No 1107/2009 and listed in Part D of the Annex to Implementing Regulation (EU) No 540/2011. Subdivided into categories A (micro-organisms) and B (chemical active substances). The weighting factor for the group is 1.
- Group 2 – active substances approved or deemed to have been approved under Regulation (EC) No 1107/2009, not belonging to other categories and listed in Parts A and B of the Annex to Implementing Regulation (EU) No 540/2011. Subdivided into categories C (micro-organisms) and D (chemical active substances). The weighting factor for the group is 8.
- Group 3 – active substances which have been approved or deemed to be approved under Article 24 of Regulation (EC) No 1107/2009, are candidates for substitution and are listed in Part E of the Annex to Implementing Regulation (EU) No 540/2011. Substantial substances classified as toxic for reproduction category 1A or 1B and/or endocrine disruptor category 1A or 1B and/or endocrine disruptor (substances classified as a category 1A or 1B carcinogen and/or category 1A or 1B reprotoxic substance and/or endocrine disruptor for which human exposure is negligible). The weighting factor for the group is 16.
- Group 4 – active substances not approved under Regulation (EC) No 1107/2009 and therefore not listed in the Annex to Implementing Regulation (EU) No 540/2011. Subdivided into category G. The group's weighting factor is 64.

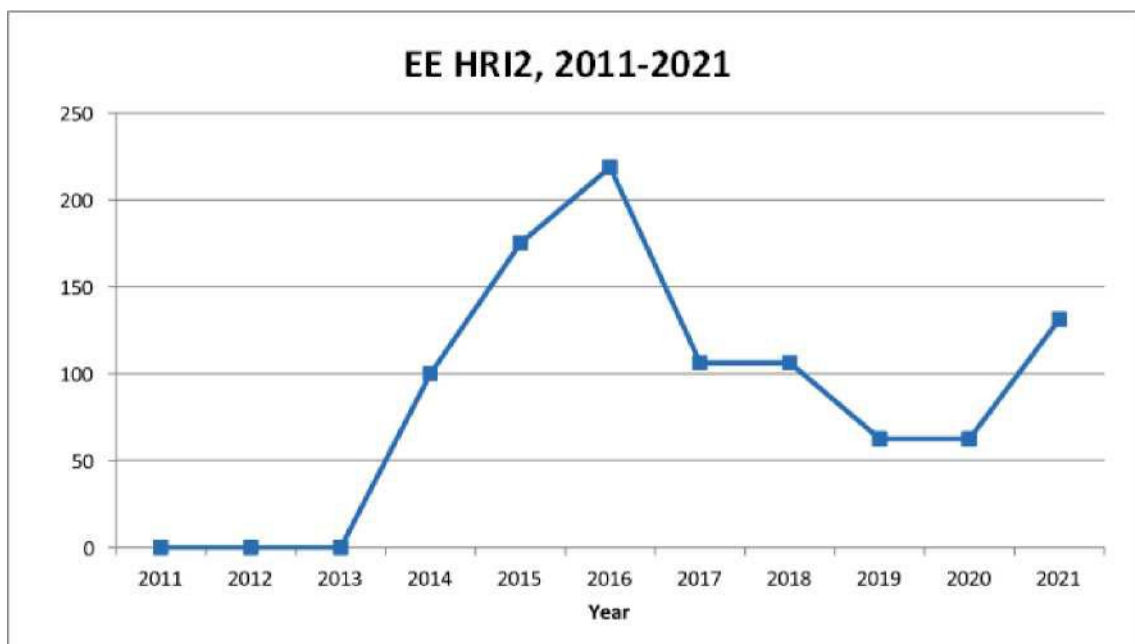
<sup>72</sup> The methodology for calculating the risk indicators is published on Eurostat's website:

<https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-gg-21-008>

<sup>73</sup><https://www.agri.ee/taimekaitsevahendite-saastva-kasutamise-tegevuskava-aastateks-2019-2023>



**Figure 6** Change in risk indicator HRI 1 between 2011 and 2021 *Source: Eurostat*



**Figure 7** Change in risk indicator HRI 2 between 2011 and 2021 *Source: Eurostat*

The risk indicator HRI 1 shows an increase to 176 units in 2016; since then, the value of the risk indicator has steadily decreased to 140 units in 2021. The risk indicator HRI 2 shows a high variation from year to year. Special authorisations for the use of plant protection products have been issued 6 per year in the 2015-2016 period and 4-6 in the period 2020-2023<sup>74</sup>. With this small number, each specific permission issued has a very high weight in the development of the risk indicator HRI 2 and leads to a large variation in its values.

A specific authorisation for the placing on the market of a plant protection product may be granted for a limited and controlled use for a maximum period of 120 days in emergency situations where such a measure proves

<sup>74</sup><https://pta.agri.ee/taimekaitsevahendite-turulelaskmise-eriload>

necessary because of a risk which cannot be contained by any other reasonable means.

### 3.1.2 Bottlenecks

- Lack of awareness among retail and dealers of changes to plant protection products on the market (re-registration, reassessment, renewal of authorisations, amendment of authorisations, extension of use, change of authorisation holder, new plant protection products);
- an upward trend in the quantities of plant protection products placed on the market;
- long evaluation sequences for active substances and plant protection products of plant protection products;
- low number of plant protection products placed on the market;
- the spread of illegal plant protection products;
- risks related to the proliferation of e-commerce.

### 3.1.3 Objectives

**CONTROL OF THE QUALITY AND SAFETY OF PLANT PROTECTION PRODUCTS PLACED ON THE MARKET IS ENSURED. FARMERS ARE GIVEN OPTIONS FOR THE CONTROL OF CONSUMPTION PESTS.**

### 3.1.4 Planned activities

- Increase the capacity to register plant protection products. Draw up a concrete action plan to speed up the conduct of the risk assessment, providing for the involvement of other parties where possible;
- increase the number and product range of plant protection products registered in Estonia;
- encourage, as far as possible, different procedures for the authorisation of plant protection products (e.g. extension of use to minor crops and mutual recognition of authorisations);
- encourage the registration of biological plant protection products and low-risk active substances;
- find solutions for plant protection for minor crops, including by encouraging the extension of the use of plant protection products to minor crops;
- develop a plan to identify alternatives to plant protection products to be replaced;
- develop cooperation between supervisory authorities;
- to raise awareness among retailers and distributors of plant protection products about changes in plant protection products on the market;
- increase the number of checks on trade in plant protection products (including e-commerce).

## 3.2 Sub-area 2: use, monitoring and surveillance of plant protection products

### 3.2.1 State of play

Data on plant protection products used on agricultural holdings shall be collected by the Statistical Office every five years on the basis of Regulation (EC) No 1185/2009<sup>75</sup>. However, data on non-agricultural use of plant protection products are not collected in Estonia, although these data would be essential to assess the overall burden of PPP use and its evolution.

In Statistics Estonia's database, the indicator 'KK208: Use of plant protection products on holdings', for the period 2019-2021, only the data derived from the extrapolation of the results of the small

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<sup>75</sup> Regulation (EC) No 1185/2009 of the European Parliament and of the Council of 25 November 2009 concerning statistics on pesticides: <https://eur-lex.europa.eu/legal-content/ET/TXT/?uri=CELEX:32009R1185>

sample in 2020(d76) According to this, the use of plant protection products on agricultural holdings per hectare of agricultural land in 2020 was 1.73 kg of preparation per hectare. Due to the revised methodology, these data are not comparable to data from previous years. Nor are those data comparable to the marketing data in which the quantities of the active substance are taken into account.

Despite an increase in the quantity of plant protection products marketed in Estonia, according to Eurostat, Eurostat, an Estonian farmer still uses plant protection products per hectare of arable land significantly less than in most other EU countries, ranked 4th lowest. According to an expert evaluation carried out by the Researchers' Working Group of the Estonian University of Life Sciences in 2022, the increase in quantities of PPPs marketed in Estonia is largely due to the 11.9 % increase in the arable land used in the period 2012-2020 and the changes in the profile of crops grown. Almost all crops grown on large surfaces and requiring chemical plant protection have increased significantly by 21 % for cereals, 4.3 times for pulses, 2.6 times for short-term grassland compared to the reference period 2011-2013. Although the area under cultivation of rapeseed and colza has decreased by 8.5 %, these crops have in recent years needed more control than before to control the massive spread of chilliberries and cabbage tissue due to climatic conditions favourable to pests. The increase in the total quantity of plant protection products must also take into account the increase in the growing area of crops with a higher need for plant protection (e.g. winter wheat, winter rapeseed) and the fact that the pressure of pests varies from year to year. Both pests and products placed on the market have changed; the ban on the use of a number of products that are effective so far has led to a higher number of less effective products being used to control a number of pests. However, the increase in the total quantity resulting from the increased use of plant protection products can be estimated to be minimal.

The role of plant protection is to control or limit the impact and the rate of development of insects, plant diseases and growth disorders through the use of different techniques, thus ensuring the quality and sustainable yield of crop products. Crop yields are significantly reduced due to different pests and quality declines. Plant protection products used to control pests are widespread because of their effectiveness, but chemical control must not be set as an end in itself to compensate for agrotechnic defects. Inexpensive or excessive use of plant protection products can lead to the development of resistance on pests, lead to plant protection products reaching non-target organisms and increase health and environmental risks, including the transfer of residues of plant protection products to surface and groundwater and food.

A study carried out by the European Commission in 2019 <sup>77</sup> and a report by the European Court of Auditors published in 2020 <sup>78</sup> highlight shortcomings in the collection of statistics on plant protection products, and it is noted that statistics on the marketing of PPPs provided by Member States are difficult to compare due to different methodologies used in different Member States. Therefore, the European Commission launched a review of the rules on the collection of statistics on plant protection products with a view to obtaining comparable information on the use of plant protection products. Regulation (EU) 2022/237 of the European Parliament and of the Council <sup>79</sup> on statistics on agricultural inputs and outputs (SAIO) covers statistics on both the marketing and use of plant protection products. The current principles for collecting statistics will be replaced by new ones. Under the new rules, statistics on the marketing of plant protection products will be collected annually from 2025 and use statistics from 2026. The first set of use data for 2026 shall include information on the use of plant

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<sup>76</sup>[https://andmed.stat.ee/et/stat/keskkond\\_pollumajanduskeskkond/KK208](https://andmed.stat.ee/et/stat/keskkond_pollumajanduskeskkond/KK208)

<sup>77</sup> European Commission. 2020. "Research paper: Statistics on agricultural use of pesticides in the European Union." ESTAT-AGRI-ENVIRONMENT(a)ec.europa.eu.  
<https://ec.europa.eu/eurostat/documents/749240/0/Statistics+on+the+agricultural+use+of+pesticides+in+the+EU>

<sup>78</sup> European Court of Auditors. 2020. 'Special Report 05/2020: Sustainable use of plant protection products: limited progress in measuring and reducing risks.' <https://www.eca.europa.eu/en/publications?did=53001>

<sup>79</sup><https://eur-lex.europa.eu/legal-content/ET/TXT/PDF/?uri=CELEX:32022R2379>

protection products on crops included in the common list which together with permanent grassland cover 75 % of the utilised arable land in the EU. According to the transitional measures, the following set of data on use shall be provided for 2028 and from 1 January 2028 the percentage of data coverage shall be 85.

The following sub-chapter describes the current state of use of plant protection products in view of the issues covered by Directive 2009/128/EC:

- storage of plant protection products, disposal of empty packaging and remaining residues from use;
- the use of plant protection products in a public place, in the immediate vicinity of a dwelling and in forest land;
- aerial application;
- the use of plant protection products in protection and storage areas;
- measures to protect the aquatic environment.

### **3.2.1.1 Storage of plant protection products, disposal of empty packaging and remaining residues from use**

The user pays attention to the disposal of leftover plant protection products, tank mixes and empty packaging. The room in which the plant protection product is stored must prevent its release into the environment. Detailed requirements and risk reduction methods for all stages of use of a plant protection product are governed by Regulation No 90 of the Minister for Agriculture of 29 November 2011 'Specific requirements for the use and storage of plant protection products'<sup>80</sup> and Regulation No 49 of the Minister for Agriculture of 20 April 2006 on safety requirements for the use, cleaning, maintenance and storage of plant protection equipment<sup>81</sup>.

On 24 September 2018, an amendment to Regulation No 90 clarified the requirements for the handling of the packaging of an empty plant protection product, which allows such packaging to be regarded as normal waste and thus facilitates waste management.

Only plant protection products authorised here and included in the register of plant protection products may be used in Estonia. Plant protection products which have been removed from the register or become unusable must be regarded as hazardous waste. Plant protection products left over after use or which have become unfit for use, including tank mixes, and plant protection products deleted from the Register must be transferred to hazardous waste operators. Empty packaging of plant protection products must be collected and delivered to the packaging business operator or returned to the distributor where possible.

### **3.2.1.2 Non-agricultural use of plant protection products**

In addition to agriculture, plant protection products are also used in forestry, home gardens and public spaces (tramways, railways and roads, sports and recreational areas, parks and gardens), but also in close proximity to residential and public buildings.

The non-compliant use of a plant protection product may present a risk and a risk to humans and the environment, so that only a professional user who has previously received plant protection training and thus has sufficient knowledge of the control of the risks associated with the use of the plant protection product has the right to use a plant protection product in public places.

In 2018, Regulation No 90 of the Minister for Agriculture of 29 November 2011 "Specific requirements for the use

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<sup>80</sup><https://www.riigiteataja.ee/akt/119052015002?leiaKehtiv>

<sup>81</sup><https://www.riigiteataja.ee/akt/103052013005?leiaKehtiv>

and storage of plant protection equipment” was amended<sup>82</sup>; according to that provision, when carrying out plant protection work in a public place, in the immediate vicinity of a multi-dwelling building or in forest land, warning signs must be placed when using plant protection products with a working period, avoiding contamination of the plant or other objects and carrying out plant protection work without the presence of unauthorised persons. However, plant protection work may be carried out in towns and settlements, as well as elsewhere in the immediate vicinity of residential buildings, only if the plant diseases and pests or weeds cannot be controlled by agronomic or other techniques. This requires, inter alia, sufficient information on both lower-risk plant protection products and biological control methods. According to a study carried out in Tallinn, PPP use has decreased from year to year at the request of both customers and operators themselves. The main areas of application of plant protection products are the control of weeds and insects. The main restriction on the use of alternative methods is that they do not work sufficiently effectively<sup>83</sup>. For non-professional users of plant protection products, the AFB has produced and disseminated various newsletters<sup>84</sup>. The results of the ARIB’s cross-compliance checks show that since 2017 no non-compliances related to the non-agricultural use of plant protection products have been detected.

### 3.2.1.3 Aerial spraying

Estonia has a general ban on aerial spraying, with no exceptions possible. In recent years, there has been a significant development in the development of drones used for plant protection purposes<sup>85</sup>. Estonia also carried out the first such demonstrations in 2023. Unmanned aircraft allow for partial spraying of fields during the initial phase of pest spread, thereby preventing damage to a larger field area and reducing the need for the use of plant protection products. In order to enable the use of unmanned aircraft in plant protection operations, it is necessary to consider appropriate legislative changes.

### 3.2.1.4 Use of plant protection products in protection and storage areas

Restrictions on the use of plant protection products in the restricted zone of the protected area and in the conservation area are laid down in the Nature Conservation Act (g a)<sup>86</sup>. Economic activities in the targeted protection zone of the protected area shall be prohibited. The use of plant protection products and biocidal products in the restricted zone of a protected area is generally prohibited. This is allowed if the use of the plant protection product is specifically provided for in the protection rules of the site. The destruction or deterioration of the habitats and habitats for the protection of which the area was established and the significant disturbance of the species to be protected shall be prohibited in a conservation area established to ensure a favourable condition of fauna, flora and mushrooms; and activities that put at risk the favourable condition of habitats, habitats and protected species. When planning the use of plant protection products, the holder of a property located within a storage area must submit a notification to the manager of the storage area. The notification shall include a description, volume and time of the planned works and a plan of the place where they are to be carried out and shall be submitted to the savings area manager at least one month before the start of the work.

The Water Framework Directive (2000/60/EC)<sup>87</sup> provided for ensuring good ecological status of surface waters

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<sup>82</sup><https://www.riigiteataja.ee/akt/121092018007?leiaKehtiv>

<sup>83</sup> Estonian, Latvian and Lithuanian Environment OÜ. 2019. Study on the use of pesticides in Tallinn: <https://uuringud.tallinn.ee/uuring/vaata/2019/Pestitsiidide-kasutamise-uuring-Tallinnas>

<sup>84</sup> ‘Plant protection in domestic gardens’, ‘Unknow of surrounding chemicals’, ‘Plant protection products – if so, what to take?’

<sup>85</sup><https://www.pollumajandus.ee/uudised/2020/08/14/droonid-ja-tehisintellekt-voimaldavad-karpida-murkainete-kasutamist- in the pollack economy>

<sup>86</sup><https://www.riigiteataja.ee/akt/126012018010?leiaKehtiv>

<sup>87</sup><https://eur-lex.europa.eu/legal-content/ET/TXT/?uri=CELEX:32000L0060>



and good water quality by 2015<sup>88</sup>. The surface water directive (2013/39/EU) <sup>89</sup> sets limit values for the presence of some plant protection products in surface water, among other hazardous substances. The Directive (2006/118/EC, the so-called Groundwater Directive)<sup>90</sup> deals with the protection of groundwater against pollution and deterioration. Annex I to the Directive sets groundwater quality standards, which also include limit values for active substances of plant protection products, including their relevant metabolites, degradation and reaction products. The three Directives have been transposed in Estonia by the Water Act, which lays down national measures vprotection of theenvironment<sup>91</sup>.

In water bodies and coastal water protection zones, the use of plant protection products is generally prohibited. In exceptional cases, in the water protection zone, plant protection products may only be used to eradicate outbreaks of plant diseases and pests, by asking the Environmental Board for authorisation on a case-by-case basis.

If necessary, the Environmental Board may prohibit or restrict the use of plant protection products in order to protect drinking water deposits in its catchment area or nutritional area. The use of plant protection products is prohibited in a maintenance area of 10 metres (only 5 m for monitoring purposes) of boreholes and wells. The storage and use of plant protection products on springs, moulds and curtains and their surroundings shall be prohibited within 10 metres of the spring water line, the edge of the pile mould or the limit of the highest water level of the curtain. In the Nitrates Vulnerable Zone, the use of plant protection products in the vicinity of springs and sinkholes is prohibited within a maximum of 50 metres of the water line or the edge of the karst funnel.

### 3.2.1.5 Monitoring of plant protection products and their residues

The surface water directive (2013/39/EU) contains a list of active substances in plant protection products. The annual average environmental quality limit values for surface water are established in Estonia by Regulation No 28 of the Minister for the Environment of 24 July 2019<sup>92</sup>.

The groundwater quality standards laid down in the Groundwater Directive (2006/118/EC) have been transposed in Estonia by Regulation No 48 of the Minister for the Environment of 1 October 2019,<sup>93</sup> which aims to ensure the protection of groundwater by assessing that status and determining the status classes of groundwater bodies in such a way as to enable effective planning and implementation of water protection measures. The Regulation establishes environmental quality limit values for priority substances and priority hazardous substances, priority substances, priority hazardous substances and certain other pollutants. According to the Regulation, the limit values for groundwater pollutants are as follows:

**Table 1. Limit values for pollutants posing a risk to groundwater**

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**Active substances in pesticides, including their metabolites, degradation and reaction products\*0.5 µg/l (total\*\*)** 0.1 µg/l

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\* Pesticides means plant protection products as defined in Regulation (EC) No 1107/2009 of the European Parliament and of the Council and biocidal products as defined in Regulation (EU) No 528/2012 of the European Parliament and of the

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<sup>88</sup> Extended to 2027.

<sup>89</sup><https://eur-lex.europa.eu/legal-content/ET/TXT/?uri=CELEX:32013L0039>

<sup>90</sup><https://eur-lex.europa.eu/legal-content/ET/TXT/?uri=CELEX:32006L0118>

<sup>91</sup> The Water Act: <https://www.riigiteataja.ee/akt/104072017050?leiaKehtiv>

List of<sup>92</sup> priority substances and priority hazardous substances, environmental quality limit values for priority substances, priority hazardous substances and certain other pollutants and methods for their application, environmental quality limit values for river basin specific pollutants, activities related to the watch list of substances.

<sup>93</sup>The list of groundwater bodies and the procedures for their differentiation, the status classes and the procedure for their determination, the values of the quality indicators for determining chemical status corresponding to the status classes and the conditions of the indicators used to determine the quantitative status, the list of pollutants posing a risk to groundwater, the threshold values for their concentrations by body of groundwater and the quality limit values in groundwater and the principles for determining the background level.

*Council.*

**\*\* 'total' means the sum of the amounts of all pesticides detected and quantified during monitoring, including their metabolites, degradation and reaction products.**

In addition to the limit values for residues of plant protection products set for the quality of surface water and groundwater, Regulation No 61 of the Minister for Social Affairs of 24 September 2019 lays down requirements for the quality and control of drinking water and method of analysis<sup>94</sup>.

The presence of plant protection products in groundwater is monitored under the national environmental monitoring sub-programme for groundwater monitoring in the Nitrates Vulnerable Zone. Monitoring reports have been published in the environmental monitoring information system<sup>95</sup>. In addition, the presence of plant protection products in both surface and groundwater is measured as part of the national environmental monitoring of surface and groundwater bodies.

The Estonian Environmental Research Centre, at the request of the Ministry of the Environment, carried out a study<sup>96</sup> in 2016-2017 to clarify and map the presence and presence of residues of plant protection products in surface and groundwater bodies representative of the agricultural load of all counties. The results of the study were interpreted on the basis of the above-mentioned regulations of the Minister for the Environment as regards the limit values. Chloridazon, chloridazon dephenyl, AMPA, glyphosate, metazachlor and tebuconazole were most found in the study. The origin of chloridazon and chloridazon dephenyl, which were found in more than half of the monitoring stations, was unclear because plant protection products containing chloridazon have not been placed on the market in Estonia after 2013 and no such products are sold in Estonia. The use of plant protection products containing chloridazon has been banned throughout the European Union since 2018. The data from the study carried out by EEC scientists entitled 'Determination of the causes of the spread of chloridazon and its degradation product, chloridazon dephenyl' also does not confirm the continued use of chloridazon, and on the basis of which it can be assumed that the contaminants originate from previous agricultural activities. The increased use of chloridazon in the research areas will remain in the early 1990s, after which the leaching of the pollutants stored in the soil has taken place. Studies from other European countries suggest that groundwater will be contaminated by these compounds for decades to come.

It is appropriate to exclude the presence of chloridazon and chloridazon dephenyl in the calculation of the indicators of the action plan for the sustainable use of plant protection products, but it is appropriate to continue monitoring these substances and to monitor the dynamics of occurrences.

Barometer	2019	2020	2021	2022	Target level
<b>Number of groundwater monitoring</b>	27	32	40	31	
<b>Share of groundwater monitoring stations above the limit values for pesticide residues in the monitoring year in the nitrate vulnerable zone (NVZ) monitoring** Source: Estonian</b>	26.1 %	3.2 %	15.0 %	3.2 %	Remaining below 10 % of groundwater monitoring stations where exceedances of limit values have been

\* The high figure for 2019 is due to the fact that samples were collected only from groundwater plants with high values in previous years.

\*\* The presence of chloridazon or chloridazon dephenyl is not taken into account in the calculation of the metric.

The aim of the residue monitoring programme for plant protection products is to avoid higher levels of residues

<sup>94</sup><https://www.riigiteataja.ee/akt/105092023006?leiaKehtiv>

<sup>95</sup><https://kese.envir.ee/kese/viewProgramNew.action?uid=473789>

Study on the content and dynamics of residues of 96 plant protection products in surface and groundwater:

<https://www.digar.ee/arhiiv/nlib-digar:341859>

<sup>97</sup><https://kliimaministeerium.ee/merendus-veekeskond/vesi/uuringud-ja-aruanded#item-2>



of plant protection products in food. Regulation (EC) No 396/200 of the European Parliament and of the Council<sup>98</sup> sets maximum residue levels for plant protection products in food and feed in the EU. EU *maximum residue levels for plant protection products (MRLs)* can be found in the EU PPP residue database<sup>99</sup>. A food shall meet the requirements if the residue levels found are below the maximum acceptable level (MRL) of the active substance. However, food may also meet the requirements if it detects a residue of a plant protection product that is prohibited in the European Union. In the case of products of Estonian origin, it is further checked whether the active substance found in the analysis is authorised for the cultivation of the crop in Estonia. If at least one residue of the plant protection product exceeds the MRL value, the food shall be considered as non-compliant.

Residues of plant protection products in food sold in Estonia are monitored by the Food Department of the AFB on the basis of a control programme consisting of a mandatory European Union control programme and a national control programme. The mandatory food categories for the years 2022-2024 were established by Commission Implementing Regulation 2021/601<sup>100</sup>. Within the framework of the national control programme, food categories which have been problematic in previous years, both in Estonia and in other Member States, are included in the control programme, taking into account the fact that samples are taken from the food categories most consumed by the Estonian population. Samples shall also be taken of products for which an alert has been received through the Rapid Food and Feed Notification System (RASFF). The results of residues of plant protection products were also analysed from the perspective of the countries of origin.

As part of the monitoring of the correct use of plant protection products under the Plant Protection Act, the AFB takes samples of both growing plants and production in order to determine the actual use and residues of plant protection products. The residue monitoring report of plant protection products shall reflect the results of samples taken from the edible part of plants and considered as food.

The AFB also monitors compliance with organic farming requirements at organic operators. As one of the monitoring activities, the AFB takes samples for the analysis of residues of plant protection products. Sampling shall be carried out at the level of primary production both on groves but also on edible parts of plants that are considered as food, from organic food processing companies, as well as during the storage and distribution stages of organic products.

In 2021, the presence of residues of plant protection products above the maximum level was detected in eight samples of food of Estonian origin, six of which were taken at different locations from the same batch of mushrooms. In 2022, no samples of food of Estonian origin exceeded the MRL for plant protection products<sup>101</sup>.

Barometer	2019	2020	2021	2022	Target level (2029)
<b>Number of analysed samples</b>	242	257	278	349	
<b>Percentage of samples with residues of plant protection products above the maximum level in food of Estonian origin (%)</b>	0.4 %	0.8 %	2.8 %	0.0 %	Percentage of samples exceeding maximum levels in food of Estonian origin remaining below 1 %

Residues of plant protection products in soil have been analysed by the Agricultural Research Centre (METK since 1 January 2023) in various studies since 2007. Since 2018, results on residues of plant protection products have been aggregated in one study (e)<sup>102</sup>. Since 2019, residues of plant protection products in soil have been monitored as part of the assessment of priorities 4 and 5 of the Estonian Rural Development Programme 2014-

<sup>98</sup><https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32005R0396>

<sup>99</sup><http://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN>

<sup>100</sup><https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32021R0601>

<sup>101</sup><https://pta.agri.ee/saasteained#taimekaitsevahendite>

<sup>102</sup><https://metk.agri.ee/mullastik/mullastiku-uuring#taimekaitsevahendite>

2020.

Barometer		2019	2020	2021	2022
<b>Residues of plant protection products in soil</b>	Average number of residues of active substances in one sample	3,4	3,0	4.6	3,4
<i>Source: METK 103</i>	Average sum of residues of active substances,	0,21	0,19	0.30	0,24

There is no officially approved methodology for monitoring residues of plant protection products in soil and no limit values for active substances. The data interpretation is also applied by changes in the sampling methodology and the submission of data during the period. Regulation No 26 of the Minister for the Environment of 28 June 2019 'Limit values for the presence of dangerous substances in soil' 104 sets targets and limit values for individual plant protection products and for the sum of active substances in chemical plant protection products. The direct use of the Regulation to assess the condition of managed agricultural soils is hampered by the fact that most active substances in plant protection products are not subject to targets or limit values. The use of residue limit values for plant protection products in interpreting soil monitoring data would provide a more objective picture of soil contamination. The methodology applied so far, where average values are used as an indicator, does not make it possible to identify the actual problem points or to take action to address them. Therefore, the presence of residues of plant protection products in soil is not used as a measure in this action plan. However, it is essential to continue monitoring and to update the methodology. It is expedient to apply the residue limit for plant protection products in the interpretation of soil monitoring data and to use the proportion of samples exceeding the limit as a metric.

### 3.2.1.6 Monitoring

State supervision of the marketing and use of plant protection products is carried out by the AFB on the basis of the Plant Protection Act. The Environmental Agency also supervises compliance with the requirements laid down in the Water Act and the Nature Conservation Act for the use of plant protection products. Farmers are checked if they comply with ICS requirements, use plant protection products correctly, and comply with ARIB's cross-compliance system (from 2023 on conditionality). Unannounced inspections and monitoring trips during the season of plant protection operations are also carried out to enhance surveillance. In addition, the correct use of plant protection products is also checked on the basis of related clues. During the monitoring activities, samples of agricultural production and plant material shall also be taken for the detection of residues of plant protection products. More emphasis has been placed on rapeseed, as mistakes in the spraying of oilseed rape are a major source of danger to pollinators. It has also been a priority to sample plants in order to verify compliance with the ban on the use of glyphosate groves for pre-harvest drying or nerves, which has been in place since 2018.

In terms of use, the main infringements over the years have been spraying in the water protection zone, spraying flowering plants, high wind spraying, use of an unauthorised plant protection product, lack of plant protection certificate and non-compliance with ITK requirements.

In addition to farmers, the use of PPPs is also monitored by non-agricultural users (road and rail keepers, bearers, foresters, greeners, golf course managers, etc.). As a result of targeted information and monitoring, the use of glyphosate has been largely abandoned on the roads and the wayside is cut.

In the area of marketing, the AFB's multi-annual control plans include the monitoring of points of retail and wholesale distribution of plant protection products. Since 2022, e-commerce controls were also launched on the basis of a work plan.

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Report on studies carried out to assess priorities 4 and 5 of the 103 Estonian Rural Development Programme 2014-2020  
 104 <https://www.riigiteataja.ee/akt/104072019006>

The AFB has carried out more than 1000 monitoring procedures for the marketing and use of plant protection products each year over the last five years. The percentage of infringements found in this period is between 3.1 % and 6 %; In 2022, the percentage of infringements was 3.9 %, compared to 6% in 2023<sup>105</sup>. With regard to marketing, the main infringements have been the following: products do not have proper labelling, no place of marketing is registered, the seller does not have a plant protection certificate, the non-registered plant protection product is marketed, and sales of plant protection products are incomplete.

### 3.2.1.7 Bottlenecks

- Statistics on the use of plant protection products are not sufficient and use data are not widely transferable;
- there is no overview of the agricultural and non-agricultural use of plant protection products;
- the presence of residues of plant protection products in groundwater above the limit values;
- non-compliance with the marketing requirements for plant protection products;
- non-compliance with the requirements for the use of plant protection products.

### 3.2.2 Objectives

**THE EXISTENCE OF AN OVERVIEW OF THE USE OF PLANT PROTECTION PRODUCTS IN ESTONIA. THE RISKS TO THE ENVIRONMENT AND HEALTH ASSOCIATED WITH THE USE OF PLANT PROTECTION PRODUCTS HAVE BEEN REDUCED. PREVENT UNAUTHORISED PLANT PROTECTION PRODUCTS FROM ENTERING THE MARKET. PROPER USE OF PLANT PROTECTION PRODUCTS AND EFFECTIVE MONITORING ARE ENSURED.**

#### 3.2.2.1 Measuring equipment

Barometer	2019	2020	2021	2022	Target level (2029)
Number of surveillance procedures – Marketing of SPCs <i>Source: EAB/AFB</i>	161	153	155	199	Maintaining the number of monitoring procedures at least at the level of 2019
Number of surveillance procedures – use of SPC <i>Source: EAB/AFB</i>	637	550	535	573	Maintaining the number of monitoring procedures at least at the level of 2019
Percentage of infringements detected in checks on the marketing of PPV (%) <i>Source: EAB/AFB</i>	5.6	3,3	2,6	2,5	Non-compliances remaining below 3 %
Percentage of non-compliances detected in checks on the use of SPCs (%) <i>Source EAB/AFB</i>	2.9	2,3	1.7	3,0	Non-compliances remaining below 3 %

### 3.2.3 Planned activities

- Collect statistical data on the use of plant protection products of a seat, including separately agricultural and non-agricultural use;
- <sup>work</sup> field plan plant protection products requiring particular attention (residues) the IHRA <sup>Working</sup> for regulation;
- enhance supervision, carry out more unannounced inspections;

<sup>105</sup>Annual Activity Report of the Agriculture and Food Board: <https://pta.agri.ee/pta-aasta-aruanDED>

- consider various cooperation agreements or the extension of the powers of the AFB to carry out surveillance under the Water Act and the Nature Conservation Act;
- increase the effectiveness of monitoring in the e-commerce of plant protection products and in preventing the spread of illegal plant protection products;
- develop improved conditions of use or recommendations for the protection of the aquatic environment and the reduction of risks associated with the use of plant protection products;
- improve and improve the methodology for monitoring plant protection product residues, ensure laboratory analytical capacity and increase the number of samples to be taken for the determination of residues of plant protection products from water, food and soil;
- produce annual reviews of monitoring and surveillance bottlenecks and updates in legislation and in the register of plant protection products;
- develop and implement a central e-Agricultural Book to reduce the administrative burden for farmers in providing data.

### Sub-area 3.3: integrated pest management

The principles of integrated pest management (IPM) play a crucial role in achieving the objectives of Directive 2009/128/EC and the Action Plan, namely reducing risks to human health and the environment and reducing dependency on the use of plant protection products and achieving a more sustainable use of plant protection products. The implementation of IPM principles has been mandatory for professional users since 2014. The conditions and manner in which ICS principles are implemented are laid down in Regulation No 62 of the Minister for Agriculture of 5 November 2013 on the basis of the Plant Protection Act 106. In order to improve the availability of ICS explanatory information, information leaflets have been produced and are available<sup>107</sup> on the websites of REM108, METK and PT A.

The Annex to Directive 2009/128/EC sets out the general principles of the ICS, which make it possible to take account of cultivated crops, local conditions, sector of activity, etc. Therefore, a professional user chooses the appropriate plant protection measure on the basis of the actual situation – if ICS's preventive measures did not produce the desired results, then control measures (chemical, mechanical or biological) will be taken. An important aspect of the ITC principles is the correct timing of the use of plant protection products and their optimal use. The problem is therefore to decide whether and when chemical control needs to be carried out or cost standards reduced. IT solutions (pest forecasting and pest control systems) that allow the precise timing of the use of *plant* protection products according to the actual situation in the field and the selection of the optimal quantity of plant protection product for control of a specified pest, or the abandonment of spraying, are helpful in the decision-making process.

The 2013-2017 Action Plan focused in particular on the creation of measures to support the implementation of ICT principles: the conditions for the implementation of the ICS were established and crop-specific guidelines were developed (oats, potatoes, spring barley, winter barley, winter rapeseed, winter rapeseed, winter rye, winter pea, winter wheat, summer wheat, cabbage). All listed ICS guidelines are being completed and updated in 2023 (control criteria are being developed for major pests). In 2016, the industrial research programme mapped the need for PPPs for minor crops and developed ITK guidelines for such crops (maize, raspberry, plum, blackcurrant, redcurrant, apple, swallow, pumpkin, cucury, garlic, onions, beet beet, carrot and tomatoes). In 2023, the EEC started to develop criteria for the control of pests in horticultural crops and vegetables, as well as

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<sup>106</sup><https://www.rigiteataja.ee/akt/107112013006?leiaKehtiv>

<sup>107</sup><https://www.PTA.agri.ee/docs/pics/PTA%20Integreeritud%20taimekaitse.pdf>

<sup>108</sup><https://www.agri.ee/sites/default/files/content/taimekasvatus/integreeritud-taimekaitse-pohimotted.jpg>

ICS guidelines. In the future, all ITC guidelines will be digitised so that they can be easily used by both farmers and inspectors. The development of new guidelines is a long-term process. METK has launched a study to analyse pesticide resistance of key pests in winter and summer cereals and to identify suitable biological control alternatives.

During the previous period of the Action Plan, additional attention was paid to the verification of ITC compliance. In 2020, the Estonian Apiculture Institute updated the guidance document on the implementation of the ITC and, as part of it, produced an evaluation sheet, which was used by the AFB for monitoring purposes. The ITC evaluation sheet brings together all key and complementary activities. Thanks to the evaluation sheet, the user has a comprehensive overview of the ITC requirements and is also able to assess on an ongoing basis his/her performance in the implementation of the ITC. On the basis of the evaluation sheets completed during the monitoring exercise, the AFB provides an overview of which requirements are being met and which still needs to be acknowledged and implemented.

In order to facilitate the planning of plant protection work, monitoring of the spread of pests was launched in 2014 with the aim of gathering information on the presence of major plant diseases and pests. The data are collected on a weekly basis from different regions of Estonia (during the May-June period) and the information received is displayed as interactive maps on the METK website (under the heading 'Monitoring of plant pests')<sup>109</sup>.

A web-based monitoring and advisory system was developed and improved under the theme of the long-term plant production programme entitled 'Additional Plural Protection Advisory System 2017-2020', which allows farmers to register pests on their field and the extent of damage and, based on the information provided, to obtain an optimal control recommendation (e)<sup>110</sup>. The pest alert and forecasting system allows the timely start of control work, increases the effectiveness of plant protection operations and helps to reduce the use of plant protection products. The warning and forecasting system needs continuous development to accompany technological developments, such as online solutions, sensor technologies and artificial intelligence.

A self-monitoring system has been set up for the implementation of the ICS principles<sup>111</sup>, which allows manufacturers to make clear to them the extent to which ICS principles are implemented in their business and to identify bottlenecks. The more general objective of the self-checking points system is to encourage wider implementation of ITC.

During checks at farmers, AFB officials also check compliance with IPM requirements. Non-compliances with ITC requirements have only been observed in individual cases.

Despite the fact that the necessary conditions for the implementation of ITC have been created and simplification measures have been developed for the introduction of ITC principles and alternative pest control methods or techniques, the measures listed above still require continuous improvement and development. Effective implementation of ITC also requires supportive scientific and applied research to identify alternative pest control techniques and novel technological solutions suitable for use in Estonian conditions and adapt them, if necessary, to these circumstances. Scientific and applied research also supports the advisory system.

### 3.3.1 Bottlenecks

- Knowledge of new technological solutions, alternative plant protection measures and non-chemical plant protection products need to be improved;

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<sup>109</sup><https://metk.agri.ee/taimekahjustajate-monitooring>

<sup>110</sup>

[https://athena.agri.ee/connect/analyst/mobile/#/main?mapcfg=%2FAnalyst%2FNamedProjects%2Ftaimekahjustused\\_torjesoovit\\_us](https://athena.agri.ee/connect/analyst/mobile/#/main?mapcfg=%2FAnalyst%2FNamedProjects%2Ftaimekahjustused_torjesoovit_us)

<sup>111</sup> IPM implementation point system for self-monitoring:

<https://www.agri.ee/sites/default/files/public/juurkataloog/TAIMETERVIS/i-taimekaitse-punktisysteem.xls>

- digital services recommending plant protection are not sufficiently developed and are under-used;
- knowledge of the ITC needs to be continuously updated;
- The implementation of the ITC is not comprehensive enough; inter alia, this should be an alternative to non-professional users in kitchen gardens.

### 3.3.2 Objectives

**THE EXTENSIVE IMPLEMENTATION OF ICS PRINCIPLES WILL REDUCE THE RISKS AND, WHERE APPROPRIATE, QUANTITIES ASSOCIATED WITH THE USE OF PLANT PROTECTION PRODUCTS.**

### 3.3.3 Planned activities

- Update and disseminate guidance materials for the sustainable use of plant protection products (including control criteria based on pest tolerance thresholds, ITC guidelines);
- improve farmers' awareness of ICS, including ways to control pests without chemical plant protection products;
- support research on ICT;
- develop digital solutions to support sustainable pest management, including a pest monitoring system;
- develop a system for alerting and forecasting the spread of pests;
- encourage agricultural practices that reduce the negative impact of plant protection products on the environment;
- promote and promote biocontrol and the use of biological plant protection products and low-risk active substances;
- promote and promote the use of novel technologies and alternative plant protection methods;
- improve the self-monitoring system for the implementation of the ITC.

## 4 Field of activity III: equipment and technical inspection of equipment

### 4.1 State of play

For plant protection works, it is important that they are carried out in accordance with permitted cost limits and operating restrictions, without damaging areas not covered by the crop being processed. In order to ensure that the use of plant protection products is as targeted as possible and the risk to human health and the environment is minimised, it is necessary to ensure the technical fitness of the application equipment.

Whereas plant protection equipment must be regularly maintained and cleaned in order to function; the functioning of the device shall be continuously checked and, if necessary, adjusted. Directive 2009/128/EC imposes an obligation on Member States to set up a system of technical checks on application equipment in professional use. Under Section 87(1) of the Plant Protection Act, plant protection equipment in use must undergo regular technical checks. The procedure for the technical inspection of application equipment is laid down in Regulation No 51 of the Minister for Agriculture of 29 April 2005<sup>112</sup>. The technical inspection shall verify that the application equipment complies with the relevant requirements listed in Annex 2 to the Directive in order to achieve a high level of protection of human health and the environment. A plant protection device complying with the requirements of the relevant European Union standard is also deemed to comply with the requirements of the Directive.

<sup>112</sup><https://www.riigiteataja.ee/akt/104112020106?leiaKehtiv>



Technical inspections of application equipment can be carried out by a natural or private legal person authorised to do so by the AFB in accordance with the procedure laid down in the Plant Protection Act. The list of persons authorised to carry out technical inspections is published on the AFB website, where 10 companies were listed on 10 January 2024. Under Paragraph 87(2) of the Plant Protection Act, the Rural Knowledge Centre is also entitled to carry out technical inspections of plant protection equipment, which also provides further training on technical inspections.

Between 2019 and 2023, a total of 1561 plant protection devices were inspected by those carrying out technical checks. Technical inspections were carried out on 285 devices in 2 019.337 in 2 020.277 in 2 021.282 in 2022 and 380 in 2023. There were no devices for re-viewing in 2019, 2020, 2022 and 2023. In 2021, two plant protection devices were re-listed.

The AFB has drawn up a list of application equipment which has undergone technical verification; the database is used for monitoring purposes. An information system for plant protection device owners has also been developed and the first automatic notifications of the end of the period of inspection of the plant protection device were sent to their e-mail in 2019. However, the list does not include application equipment under the age of three years, which is not subject to the obligation to undergo technical checks. Therefore, the database does not provide a complete overview of the application equipment in use.

In recent years, there have been major developments in the development and use of drones in agriculture<sup>113</sup>. In addition to the current field mapping and plant phenotyping, the first unmanned aircraft used for field fertilisation and plant protection have entered the Estonian market. In order to allow the use of new technical solutions, consideration should be given to amending the sectoral legislation and, where appropriate, to the development of procedures for the use and technical control of such novel equipment.

Directive 2009/128/EC calls on Member States to recognise technical checks carried out in another Member State (in cases where the period and other conditions are the same), but there is no more precise guidance. There is currently no possibility in Estonian legislation to recognise technical checks carried out in another Member State. Although these are individual cases, its regulation requires further analysis.

#### 4.1.1 Bottlenecks

- Ensuring that technical inspections of application equipment are kept up to date;
- lack of overview of the application equipment used.

## 4.2 Objectives

### AN UP-TO-DATE TECHNICAL INSPECTION OF APPLICATION EQUIPMENT IS ENSURED.

#### 4.2.1 Measuring equipment

Barometer	2019	2020	2021	2022	2023	Target level (2029)
<b>Orders concerning the use of uncontrolled application equipment(% of inspections carried out)</b>	4.8 %	3.1 %	5.4 %	7.5 %	5.3 %	Percentage of prescriptions related to the use of uncontrolled plant protection-devices less than 5 %
<i>Source: AFB</i>						

## 4.3 Planned activities

- Ensure the functioning of the technical inspection system for modernised application equipment, including updating the technical inspection procedures, and adapt it to existing standards;

<sup>113</sup><https://www.pollumajandus.ee/uudised/2020/08/14/droonid-ja-tehisintellekt-voimaldavad-karpida-murkainete-kasutamist-in-the-pollack-economy>

- provide continuous refresher training for technical inspectors and update common training materials;
- analyse and, where necessary, complete the inventory of application equipment and use it as a basis for organising inspections and trainings;
- analyse the use of unmanned aircraft in plant protection operations and, if necessary, develop legislation and guidance material to regulate it.

## **5 Implementation of the Action Plan, assessment of the achievement of the objectives**

The Ministry of Regional and Agriculture is responsible for the implementation of the action plan. However, in order to achieve the objectives, it is important to continue cooperation between different ministries and institutions in order to ensure that the activities are strategic and coherent.

Each year, under the Sustainable Use of Plant Protection Products Directive, the REM prepares a report on the use and effects of plant protection products to the European Commission, also taking into account the objectives set out in the Action Plan. The report is also published on the Ministry's website.

As appropriate, the Ministry of Regional and Agriculture will hold meetings with representatives of different interest groups (Plant Protection Council), leading to the establishment of an action programme based on the milestones of the Action Plan, which will agree on the respective activities and the implementers.

The achievement of the objectives of the Action Plan is assessed and summarised by the Ministry of Agriculture and Regional Affairs. The summary on the implementation of the Action Plan's objectives describes the extent to which the Action Plan's objectives have been achieved through agreed actions and metrics, and analyses key progress and challenges to be addressed.



## Annex 1. Summary overview of the Action Plan's activities

### Activity I: awareness raising, training and counselling

#### Sub-area 2: awareness-raising

- raise public awareness of plant protection, including the reasons for the use of plant protection products and the impact of plant protection products on human health and the environment. Record short videos on the topic.
- continuously publish and update information in the field of plant protection (including updates of the REM, ATA and METK websites), including on the work carried out and the results achieved under the Action Plan on the Sustainable Use of Plant Protection Products.
- promote the use of ITK-based and, where possible, non-chemical control techniques for the maintenance of public areas managed by the municipality.

#### Sub-area 2: training and counselling

- **update** the principles of plant protection training and agree on a common approach to online training;
- support the after-growth of plant protection trainers;
- update the competences of plant protection training organisers, including updating and updating the educational materials needed to organise plant protection training;
- produce training material on the latest ICS techniques;
- depending on the need to organise regular training for distributors, professional users and advisors of plant protection products;
- **provide** educational videos on the sustainable use of plant protection products for farmers and users of plant protection products;
- make plant protection training available to non-professional users;
- ensure the availability of an independent plant protection advisory service when developing advisory services.

### Field of activity II: marketing and sustainable use of plant protection products

#### Sub-area 2: on marketing of PPPs

- **increase** the capacity to register plant protection products. Draw up a concrete action plan to speed up the conduct of the risk assessment, providing for the involvement of other parties where possible;
- increase the number and product range of plant protection products registered in Estonia;
- encourage, as far as possible, different procedures for the authorisation of plant protection products (e.g. extension of use to minor crops and mutual recognition of authorisations);
- encourage the registration of biological plant protection products and low-risk active substances;
- finding solutions for the needs of minor crops for plant protection, including encouraging the extension of the use of plant protection products to minor crops;
- develop a plan to identify alternatives to plant protection products to be replaced;
- **to** develop cooperation between supervisory authorities;
- raise awareness among retail and dealers of plant protection products about changes in plant protection

- products on the market;
- increase the number of checks on trade in plant protection products (including e-commerce).

### **Sub-area 2: use, monitoring and surveillance of plant protection products**

- collect statistical data on the use of plant protection products, including separate agricultural and non-agricultural uses;
- develop a plan to regulate the use of plant protection products (residues) requiring particular attention;
- enhance supervision, carry out more unannounced inspections;
- consider various cooperation agreements or the extension of the powers of the AFB to carry out surveillance under the Water Act and the Nature Conservation Act;
- increase the effectiveness of monitoring in the e-commerce of plant protection products and in preventing the spread of illegal plant protection products;
- develop improved conditions of use or recommendations for the protection of the aquatic environment and the reduction of risks associated with the use of plant protection products
- improve and improve the methodology for monitoring residues of plant protection products, ensure laboratory analytical capacity and increase the number of samples to be taken for the determination of residues of plant protection products from water, soil and food;
- produce annual reviews of monitoring and surveillance bottlenecks and updates in legislation and in the register of plant protection products;
- to develop and implement a central e-Agricultural Book to reduce the administrative burden for farmers in providing data.

### **Sub-area 2: integrated pest management**

- update and disseminate guidance materials for the sustainable use of plant protection products (including control criteria based on pest tolerance thresholds, ITK guidelines);
- improve farmers' awareness of ICS, including ways to control plant protection products without chemical plant protection products;
- support research on ITK;
- develop digital solutions to support sustainable pest management, including a pest monitoring system;
- to develop a system for alerting and forecasting the spread of pests;
- encourage agricultural practices that reduce the negative impact of plant protection products on the environment;
- to promote and promote biocontrol and the use of biological plant protection products and low-risk active substances;
- to promote and promote the use of novel technologies and alternative plant protection methods;
- improve the self-monitoring system for ITK implementation.

### **Field of activity III: equipment and technical inspection of equipment**

- Ensure the functioning of the technical inspection system for modernised application equipment, including updating the technical inspection procedures, and adapt it to existing standards;
- provide continuous refresher training for technical inspectors and update common training materials;

- analyse and, where necessary, complete the inventory of application equipment and use it as a basis for organising inspections and trainings;
- analyse the use of unmanned aircraft in plant protection operations and, if necessary, develop legislation and guidance material to regulate it.

## Annex 2: Metrics to assess the achievement of the Action Plan's objectives

General metrics for assessing the achievement of the overall objective of the Action Plan for the Sustainable Use of Plant Protection Products.

Indicator	Baseline (2022)	Target level (2029)
<b>Share of groundwater monitoring stations above pesticide residue limit values in monitoring in the monitoring year* in nitrate vulnerable zone groundwater monitoring*</b> <i>Source: Estonian Environmental Research Centre</i>	3.2 %	Remaining below 10 % of groundwater monitoring stations where exceedances of limit values have been
<b>Percentage of samples with residues of plant protection products above the maximum level in food of Estonian origin</b>	0 %	Percentage of samples exceeding maximum levels in food of Estonian origin
<b>Percentage of referrals due to exposure to plant protection products in the poison centre**</b> <i>Source: Health Board</i>	11 %	Less than 8 % of applications from plant protection products

\* *M* does not take into account the presence of chloridazon and chloridazon dephenyl

\*\* *for the M METRIC, the initial level for 2023 is to be taken into account for ROTATIONS due to exposure to plant protection products to the Utilisation Information Centre's hotline (16662)*

### Activity: marketing and sustainable use of plant protection products

Indicator	Baseline (2022)	Target level (2029)
<b>Percentage of non-compliances related to the use of plant protection products in the controls carried out (%)</b>	3,0	Non-compliances remaining below 3 %
<b>Percentage of non-compliances related to the marketing of plant protection products in the controls carried out (%)</b>	2,5	Non-compliances remaining below 3 %

The assessment of the performance of the action plan is complemented by harmonised risk indicators HRI 1 and HRI 2.

### Activity: equipment and technical inspection of equipment

Indicator	Baseline (2022)	Target level (2029)
<b>Orders concerning the use of uncontrolled application equipment (% of inspections carried out)</b> <i>Source: AFB</i>	7.5 %	Percentage of prescriptions related to the use of uncontrolled application equipment less than 5 %