

2024-2028





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Summary

Under Article 4 of Directive 2009/128/EC of the European Parliament and of the Council establishing a framework for Community action to achieve the sustainable use of plant protection products, adopted by the European Union in 2009, each Member State must draw up a National Action Plan (NCST). It shall set out specific targets, measures and timetables to reduce the risks and impacts of plant protection products on human health and the environment and to encourage the development and introduction of integrated pest management and alternative approaches or technologies in order to reduce the agricultural risk of pesticide use.

The Action Plan should also take into account the conservation of natural habitats and of wild fauna and flora and the main principles set out in Directive 2000/60/EC of the European Parliament and of the Council, the so-called Water Framework Directive (WFD). The WFD has introduced a new system for the control of chemical pollution and prevention of water, which should be detailed in the river basin management plans. The WFD requires the establishment of a list of so-called priority substances and the establishment of environmental quality limits (EQS Directive, 2008/105/EC). Priority substances are chemical pollutants, including pesticides, that can damage the functioning of the aquatic ecosystem or human health. For groundwater, Directive 118/2006/EC on the protection of groundwater against pollution and deterioration sets quality standards for plant protection products and derivatives, which need to be taken to restore good status if exceeded. For surface waters, the WFD and EQS also require regular monitoring of priority substances are exceeded, basic and complementary programmes of measures.

In the period 1989-2009, the amount of plant protection products used in Hungary decreased by 60 %. Since accession to the European Community, the Authorisation Authority has withdrawn the authorisations for placing on the market and use of hundreds of plant protection products, and a significant part of them because the active substances of these plant protection products have not been demonstrated during the EU review that their use meets the strictest safety requirements. It is important to address as soon as possible the substitution of plant protection products authorised in Hungary whose withdrawal is expected or is justified on the basis of the procedure and criteria for the approval of active substances, safeners and synergists in accordance with Chapter II set out in Annex II to the Union Authorisation 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.

In addition to the restrictions made so far, we also aim to use the plant protection product at the level and manner necessary to maintain agricultural activity, protect plants and plant products from harmful organisms and produce high-quality, safe food. Since, in the circumstances described above, the reduction in the use of plant protection products in purely natural units (kg, l) is no longer necessarily consistent with the reduction of environmental and health risks, the National Action Plan aims first and foremost to reduce the risks arising from the use of plant protection products and to generalise rational and professional use. In addition, the NCST also aims at reducing avoidable or inappropriate use, replacing technologies requiring plant protection products with agrotechnical methods, thereby reducing risks. The National Action Plan shall be reviewed every 5 years after the adoption of the Plant Protection Committee.

This Action Plan aims to promote the development and deployment of integrated pest management and safer alternative pest management technologies in Hungary.

1. Situation assessment

In Hungary, the construction of the plant protection administration began in 1954 with the establishment of the county plant protection stations. The plant protection management at the time recognised that this non-hazardous work requires qualified persons and that plant protection activities should be regulated within the appropriate framework. To ensure this, the first plant protection legislation was enacted in 1956, requiring production plants to employ a plant protection professional. Since 1958, a higher education course in plant protection has been carried out in Hungary. In addition to the training of professionals, the preparation of plant protection workers and plant protection technicians has been organised, i.e. basic, secondary and higher education in plant protection, building on basic and applied theoretical research.

Since the early 1960s, it has been very important to develop plant protection technologies and develop specialist management, and to provide new plant protection information to producers.

In order to be able to identify plant pathogens and pests safely, biological laboratories have been established at county stations. In 1968, some of the chlorinated hydrocarbons (e.g. DDT, aldrin, dieldrin) were banned for the first time in the world, due to their unacceptable impact on the environment.

Since the early 1970s, analytical laboratories for pesticide residues were established in all 19 counties, as well as human toxicology, wild toxicology and hydrophysiology laboratories for aquatic organisms. The practical use of fertiliser, the other branch of agricultural chemistry, falls during this period and its technical conditions had to be ensured. Accordingly, in 1976, plant protection stations in the county were transformed into plant protection and agrochemical stations. In the new field, it is necessary to ensure human and technical conditions and to develop a professional basis. Therefore, a uniform methodology for soil sampling, soil testing and advice has been developed. In this context, 11 soil laboratories were built in 1977-78 over a period of 2 years.

Until the first third of the 1980s, both plant protection and agro-chemistry were subject to significant innovative activities, which had an impact on the entire agricultural sector.

After the change of regime, when agricultural land was privatised, production was in many cases placed in the hands of persons without agricultural production experience and plant protection training.

In 2000, the age-appropriate plant protection law and the law of the Chamber of Plant Protection, which are unique in the world, were published.

The ideal, "European multifunctional" quality agriculture, produces valuable, residue-free, healthy and safe food, as well as local energy and other raw materials, while protecting our soils, drinking water bases, wildlife, landscapes, including humans, communities and culture. The achievement of this complex system of objectives coincides with the traditional objectives of the plant and soil protection organisation, which embodies the State's responsibility in this respect in an integrated manner.

There is therefore a need for a technical concept that fits in with the rural development strategy and provides a comprehensive message on integrated farming, drawn up on the basis of the experience of plant and soil protection.

Specificity

Hungary's natural geography has made it possible to develop diverse landscapes and a rich natural life, which form a unique ecological unit in the Carpathian Basin.

80-85 % of the country's territory is covered by soils suitable for farming, and land is a major resource in the country. The soils are generally in good condition and fertility.

The country, which is traditionally based on agricultural production, has excellent production area conditions, the climate that is ideal for production, and farmers who wish to use them.



Problems and challenges

Today, as a result of modern consumption patterns, 80 % of food comes from plants. The security of agricultural production goes beyond the quantitative and qualitative safety of the food produced and food safety. This includes maintaining an environment suitable for food production in the long term, starting with the protection of the agronomic environment (in particular the conservation of our land – soil protection), as well as smart and sustainable integrated pest management and plant health. It is not possible to reconcile long-term community interests with short-term individual interests without the state's conscious involvement. Cooperation between the plant protection authority and plant protection professionals, as well as the application of integrated pest management systems, ensures the production of food containing as few pesticide residues as possible.

The soils are generally in good condition and fertility, but they are endangered by degradation processes that prevent them from performing their function and reduce their fertility. Water erosion is one of the most significant soil degradation processes, damaging almost a third of agricultural land, with an area at risk of wind erosion of around 1.4 million ha. The stocks of organic matter in soils are decreasing. The negative effects have also been exacerbated by the marginalisation of livestock manure. In functionally inhibited topsoils, we are confronted with more vulnerable cultures, which are more dependent on human intervention and thus stronger chemical control. The basis for the rational cultivation of crops is the appropriate soil.



Pesticide residues are present in about half of both domestic and imported food, but the proportion of products with an unauthorised active substance or above the existing Maximum Residue Limit (MRL) is very low would be plant protection product

residues. However, plant protection products currently in use also pose a health and environmental risk. The aim is to ensure that all products have a pesticide residue level below the authorised limit and it is desirable that:

maximise the proportion of non-residue crops. Under the requirements of Regulation (EC) No 1107/2009,

a number of active substances posing a risk to human health and the environment may still need to be phased out in the coming years. In addition, the European Commission has drawn up a list of substances that pose a risk for substitution, which will be kept under constant review. Studies in recent years show that pesticide residues are increasingly detected in crops. The combination may be additive, but cases where active substances in different plant protection products amplify each other's adverse effects are also known. Several plant protection active substances are known to have stronger combined effects in the presence of each other. The current regulations do not take into account the combined effects of active substances.

Herbicides used in agriculture can appear in surface waters and enter drinking water by passing through shore-filtered wells. There is a lack of information on pesticide residues in surface water and drinking water, as relatively few substances need to be monitored compared to the number of active substances used in practice. A significant proportion of substances detected in living waters may be withdrawn due to their risk, as they are included, for example, in the European Commission's preliminary list of endocrine disruptors. Endocrine-impacting substances should be withdrawn from the market in accordance with Regulation (EC) No 1107/2009.

Plant protection products not in accordance with the requirements of the authorisation document or illegally used plant protection products may cause poisoning in non-target organisms, in particular protected and specially protected animal species. The conservation of these protected organisms is also justified from the point of view of plant protection, environmental protection and conservation. Crop production is inconceivable without a rational and sustainable crop protection. Plant protection, which aims to reduce plant health and indirectly harm the health of consumers, has become a multitude of science today. It is based on physiology, biology, chemistry, but there are also many other areas of expertise, such as mechanical engineering, economy, but also, more recently, computing and geospatial information by increasing precision crop production. The increase in the number of plant health problems that have arisen in recent times calls for a common solution, taking into account scientific, technical, economic results and consequences.

Plant protection needs to be adapted to the needs, challenges and sustainability of today and tomorrow. Plant protection with plant protection products is less risky with a qualified user, but it should not be a definitive and reassuring solution that is satisfactory in all respects. An important aspect is the use of active pesticides to solve the current plant protection problem while posing the lowest risk to the environment and human health. Using scientific evidence to date, we need to adopt a new approach which, while achieving sufficient

quantities and quality, has the least negative impact on substances harmful to the environment. The way to achieve this objective is the application of integrated pest management in all areas where plant products are produced.

2. Framework for planning and implementation of the NCST

Farmers and foresters need ever-increasing support in applying and maintaining farming systems and processes that are the most conducive to achieving environmental and climate objectives.

The Common Agricultural Policy (CAP) aimed at creating dynamic rural areas with more sustainable agriculture is not only an essential but small part of the EU economy, but also a policy of strategic importance for food security, the environment and territorial balance. This is the essence of a truly common agricultural policy: it can make the most efficient use of limited budgetary resources, while ensuring the sustainability of agriculture across the EU, tackling climate change and other important cross-border issues, and strengthening solidarity between Member States, while ensuring sufficient flexibility in implementation for local needs.

The main political and policy objectives of the European Union are formulated in different programmes. The objectives of the EU's environmental policy are reflected in environmental action programmes. IN ACCORDANCE WITH ARTICLE 8 The Environment Action Programme was adopted by the European Council in 202. This Action Programme sets out the priorities of the EU's environmental policy, i.e. climate change mitigation, nature protection, biodiversity conservation, environmental protection, human health, conservation of natural resources, sustainable use of natural resources and waste management.

The action programme includes 7 thematic strategies, one of which is the promotion of sustainable pesticide use, i.e.:

- minimising health and environmental hazards and risks arising from the use of plant protection products;
- increased monitoring of pesticide use and trade, reduction of the use of hazardous active substances (in particular the substitution of the most harmful active substances with safer alternatives),
- support for cultivation using the minimum necessary plant protection product or plant protection product-free production,
- establish a transparent reporting and monitoring system related to the measures taken to achieve the targets.

3. NCST Target Areas

- Maintaining Hungary's plant health safety by using as few plant protection products as possible.
- To reduce or maintain at a low level the risk to human health and the environment arising from the use of plant protection products and plant protection technologies by requiring appropriate risk mitigation measures, in particular in the following areas.
- Reduction of health risks and poisoning for users of plant protection products.
- Reducing risks to consumers of products treated with plant protection products, promoting safe food

production.

- Reduce pollution of soil, surface water, groundwater, air.
- Protection and mitigation of non-target organisms (in particular organisms responsible for pollination and protected animal species).
- Substitution and reduction of use of plant protection products of particular concern.
- Encourage the use of low-risk plant protection products.
- Promoting the sustainable, environmentally sound use of plant protection products.
- Significantly reduce treatments at unnecessary or higher doses than necessary.
- End the placing on the market and use of illegal plant protection products.
- Reducing the environmental impact from the use of plant protection products and the waste generated.
- Promoting the competitiveness of sustainable crop production, reducing costs for producers by reducing the number of treatments and providing alternative technologies.
- Reducing risk factors during aerial spraying, in order to carry out the activity within a safe framework.
- Promotion of integrated pest management, biological pest management and organic farming.
- Creating biodiversity in agro-ecosystems by encouraging agricultural afforestation.
- Increasing the level of training and professional practice in plant protection, in particular with regard to the principle of prevention; operation of an objective, independent network of specialised managers.
- Facilitate the development and use of non-chemical technological alternatives to prevent and counter epidemics, degradation and invasions to ensure production security.

- Promoting easy-to-understand communication and awareness-raising for the general public.
- Develop a coordinated national plant protection research and innovation programme.
- Provide information on tender sources to support development and investment in the sustainable use of pesticides.

4. NCST legislative framework

EU legislation

- Regulation (EC) No 396/2005 of the 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
- 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
- Regulation (EC) No 1185/2009 of the European Parliament and of the Council of 25 November 2009 concerning statistics on plant protection products
- Regulation (EC) No 178/2002 of the European Parliament and of the Council laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of foodsafety
- 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 plant protection products
- Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery and Amending Directive 95/16/EC (recast)
- Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy
- Directive 2008/105/EC of the European Parliament and of the Council of 16 December 2008 on environmental quality standards in the field of water policy, amending and subsequently repealing Council Directives 82/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC and 86/280/EEC



and amending Directive 2000/60/EC of the European Parliament and of the Council

- Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration
- Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91
- Commission Regulation (EC) No 889/2008 of 5 September 2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control

Hungarian legislation

- Act XLVI of 2008 on the food chain and its official supervision
- Act LXXXIV of 2000 on the Hungarian Chamber of Plant Protection Engineers and Plant Medicine
- Act CXXIX of 2007 on the protection of agricultural land
- Act LIII of 1996 on Nature Conservation

- 201/2001. Government Decree (X. 25.) on the quality requirements of drinking water and the inspection procedure

- 219/2004. (VII.) Government Decree No 21 of 21 November 2006 on the protection of groundwater

- 220/2004. (VII.) Government Decree No 21 of 21 November 2006 laying down rules for the protection of the quality of surface waters

- 221/2004. (VII.) Government Decree No 21 of 21 November 2006 laying down certain rules on river basin management

- 123/1997. Government Decree (VII.18.) on water bases, long-term water bases and drinking water supply on the protection of aquatic facilities serving
- 89/2004. Decree (V. 15.) of the Minister for Agriculture and Rural Development on the authorisation of the placing on the market and use of plant protection products and on the packaging, marking, storage and transport of plant protection products

- 43/2010. (IV. Decree No 23 of the Minister for Agriculture and Rural Development on plant protection activities

- 44/2005. Joint Decree of the Minister for Agriculture and Rural Development, GKM and KvVM on agricultural and forestry aerial work

 103/2003. (IX. Decree No 11 of the Minister for Agriculture and Rural Development on waste packaging contaminated with plant protection products delegations

- 36/2006. Decree (V. 18.) of the Minister for Agriculture and Rural Development on the authorisation, storage, distribution and use of fertilising products
- 66/2010. Decree (V. 12.) of the Minister for Agriculture and Rural Development on maximum residue levels of pesticides in or on food and feed of plant and animal origin and their official control
- 61/2009. Decree (V. 14.) of the Minister for Agriculture and Rural Development on the detailed conditions for receiving support for agricultural environmentalmanagement from the European Agricultural Fund for Rural Development
- 6/2009. (IV. Joint Decree of the Minister for Environment and Rural Development and the Minister for Agriculture and Rural Development on the limit values and the measurement of pollution necessary for the protection of geological formation and groundwater against pollution

- 10/2010. (VIII.) Decree No 18 of the Minister for Rural Development on the limit values for water pollution in surface water and

rules of application

- 30/2004. (XII. Decree No 30 of the Minister for Environmental Protection and Water Management on certain rules for the assessment of groundwater

- 31/2004. (XII. Decree No 30 of the Minister for Environment and Water on the monitoring and assessment of the status of surface waters

of the European Union

5. Broad areas of action and instruments of the NCST

5.1. Distribution of plant protection products

Directive 2009/128/EC requires the establishment of initial and continuous training systems for distributors, professional managers and professional users of plant protection products.For decades, Hungarian legislation has laid down professional qualification requirements for both distribution and use. The current legislation on plant protection activities, as required by the Directive, regulates activities with plant protection products as follows:

Holders of higher plant protection qualifications are currently entitled to obtain a licence for the distribution, purchase and use of plant protection products category I, allowing them to carry out any activity (marketing, use, transport, storage, purchase, etc.) irrespective of the category of the plant protection product.

In Hungary, the Hungarian Chamber of Plant Protection Engineers and Plant Healthists (Kamara) and the plant protection administrative body jointly operate a non-tertiary training system, after which a licence for the

marketing, purchase and use of plant protection products category II can be triggered. The theme of the basic training course on plant protection is in line with Directive 2009/128, thus ensuring that the subjects listed in Annex I to that Directive are provided to the trainees. The marketing, purchase and use of plant protection products category II by persons holding the qualifications listed in separate legislation on plant protection activities, including those attending the training of the Chamber

they are authorised to carry out any activity (except services) with plant protection products of categories II and III, including their distribution.

The purchase and use of category III plant protection products other than services is subject to professional qualification or authorisation. The plant protection administrative body shall keep records of the marketing, purchase and use licences issued by it. In order to obtain the latest information on plant protection, holders of authorisations for the marketing, purchase and use of plant protection products should undergo periodic training every 5 years in order for the authority to revalidate their authorisation.



While Hungary intends to maintain the existing two-level training system, in order to increase the efficiency of the training, it is inevitable to adapt the training system to comply with the new category system and the integrated pest management approach. Further information on the adaptation of the training system is provided in point 6.1.1 of the NCST. For each wholesale unit placing plant protection products on the market and for each unit carrying out wholesale and retail distribution of plant protection products, at least



once an inspection is carried out by the plant protection inspector.

100 % of retail outlets and more than 50 % of plant protection products are inspected at least once a year. These official procedures are aimed at verifying the activities of the distributor (whether there is an appropriate plant/operating licence, the presence of the required qualified and authorised person, the proper storage and transport of plant protection products) and the compliance of the plant protection products on the market (label, packaging, warranty, registration, etc.).

Target:

- Safe operation of plant protection product distribution units
- Advice is provided to end-users at the time of the sale of plant protection products.

Required action:

- Examination of the possibility of separating trade and specialised management
- Introduction of ePrescriptions, withdrawal of paper prescriptions _
- A legal requirement that category III plant protection products may be marketed only in small packages. (Considering that they can still be marketed in larger formats according to the specifications corresponding to category II.)
- Teaching appropriate technological solutions for integrated and biological pest management and pollinator

protection during secondary and tertiary plant protection courses, enabling trainees to learn modern methods of integrated and biological pest management. Ongoing.

- Check that users have received the necessary information on the use of the products and the cleaning and disposal of packaging materials when purchasing plant protection products.
- Checking the treatment of pesticide-package (waste) at the collector.
- Inspection of plant protection product distributors, dispensers and sampling of plant protection product quality.

Indicators:

- Rate of non-compliance observed during official controls in commercial units. Our aim is to keep the rate of non-compliance below 5 %.

5.2. Pesticide use (technology, specifications, control, training)

In Hungary, crop production in home gardens and hobbery is very widespread among the population, which does not result in a sharp loss of production for professional (market producers) and own use. For reasons of food chain safety, the use of plant protection products classified in categories I and II by the authorising authority should only be allowed for professional users holding a marketing, purchase and use authorisation corresponding to its category. A user of a plant protection product who is not authorised shall only be entitled to purchase and use for his own account plant protection products classified as Category III for sale, purchase and use.

Target:

- Professional and amateur users shall use the products as provided for in the licence document.
- Professional and amateur users should protect against pests at the right time using the most appropriate method (chemical, biological, agrotechnical).

Required action:

- Providing as much information as possible to professional and amateur (residential) users of good plant protection practice.
- Control of pesticide-packing (waste) management at the farmer/user of plant protection products.
- Checking the correct use of plant protection products and compliance with the legal requirements at the place of production and at the site, and sampling for pesticide residue testing.
- Extension of the sprinkler log.
- Introduction of an electronic spraying log.

Indicators:

- Rate of irregularities detected during official controls on professional users. Our objective is to keep the rate of irregularities below 5 %.
- Number of cases of poisoning caused by plant protection products in the general public.
- The proportion of users performing plant protection management during technological inspections on the basis of prediction in relation to the total number of users who have been checked.

5.2.1. Reduction of exposure to deployers

Personal protective equipment based on risk assessment in the authorisations for placing on the market and use of plant protection products (and on the label of the plant protection product) shall be required in a standardised form that is understandable to the user and makes the device easily identifiable. This ensures that both the user (working with plant protection products) and the trader selling the protective equipment are familiar with and familiar with the necessary protective equipment. If several different chemical preparations are used in the work and more protective devices with different levels of protection would be required, a higher level of protection should always be used.

The use of the required protective equipment must be monitored extensively (during preparation and work) and training and further training must include information on its proper use. This will achieve a generalised wearing of protective equipment, the use of which, through professional and ergonomic use, avoids unacceptable exposure to plant protection products of occupational origin.

Target: The exposure of the person applying the application, which may cause an acute or chronic disease, is reduced. The generalisation of wearing protective equipment and the exclusion of damage to health caused by plant protection products of occupational origin by their professional and ergonomic use.

Required action:

- Typing of personal protective equipment that can be used and used during pesticide treatment. Ongoing.
- Inform users of the need for the required protective equipment and encourage their use.
- The use of the required protective equipment must be monitored extensively during storage of the plant protection product and during plant protection work.
- The possibilities and proper use of protective equipment should be described in the training and further training courses.
- It is necessary to develop appropriate theoretical and practical training and instruction on the use of personal protective equipment.
- A monitoring system shall be in place to map and document cases of poisoning arising from exposure to pesticides.

- The use of more up-to-date exposure estimation models should be introduced in the review of authorisations for plant protection products on the market and in the authorisation procedure for new plant protection products. New models allow for a more accurate risk assessment.

- Produce a leaflet on good pesticide use practices for the general public. The leaflet should be available free of charge (e.g. in shops selling pesticides).

- The exposure of the person applying the application, which may cause an acute or chronic disease, is reduced.

- Presentations and presentations on good pesticide use practices (in village farmers, farm shops, Kert-friendly clubs, etc.)

Indicators:

- Number of pesticide poisoning cases of employment origin.

- Rate of irregularities detected during checks. (Control of protective equipment)

the number of irregularities detected in 2013 compared to the total number of checks.) We aim to keep the rate of irregularities below 5 %.

5.2.2. Aerial plant protection activities

Under the conditions laid down in Article 9(2) of Directive 2009/128/EC, Member States are given the possibility to grant national authorisations for an air plant protection activity, in full compliance with risk mitigation restrictions, where the plant health problem cannot be solved by other means. Airborne plant protection in Hungary has a long history of strict regulation and conditionality for several decades. Taking into account the

structure of Hungarian agriculture, the country's topography and weather conditions and the risk of developing an exceptional planthealth situation from time to time, it is justified to maintain the possibility of aerial plant protection activity within the framework of the relevant conditions.

According to the current regulations, aerial plant protection activities may only be carried out with plant protection products authorised for aerial application under the supervision of a person with higher plant protection qualifications. The activity is subject to official authorisation, and the authority keeps a record of the authorisations issued. In addition to conventional agricultural vehicles, domestic



legislation on air protection also includes specific conditions for the application of plant protection products by unmanned aerial vehicles (drones).

Target: Reduction of risks from pesticide drift during aerial plant protection activities.

Required action:

- Uniform review of authorisation documents for aerial application based on a risk assessment. Ongoing.
- Making public the authorisation of aerial spraying. Completed, continuous.
- Verification of compliance with anti-drift devices, materials and other risk mitigation measures required by the Air Plant Protection Act and licence documents. Completed, continuous

Indicators:

- The ratio of damage caused by pesticide drift during aerial spraying to total aerial spraying. Our goal is to keep the value below 1 %
- Ratio of pesticide drift during aerial spraying to total pesticide drift.

5.2.3. Gathering information on plant protection practices

A report on the recording of data on pesticide use is mandatory under Regulation (EC) No 1185/2009 concerning statistics on plant protection products. The data determined in accordance with the provisions of Annex II to this Regulation shall be given for active substances contained in plant protection products applied on selected plants, as listed in Annex III to that Regulation.

In order to provide data in accordance with that Regulation, data on the application of plant protection products should be collected in a way that is as cost-effective as possible and does not create unnecessary administrative burdens for respondents. The simplest way to achieve this is to collect the relevant data from the users of plant protection products in existing databases.

Currently, around 90 % of producers of plant products in Hungary are listed in the database of the Hungarian State Treasury (MÁK). Furthermore, farmers receiving agri-environmental management (AKG) support (around

13 thousand clients) are still obliged to send the spraying log to the National Food Chain Safety Office, the Directorate for Plant Protection, Soil Conservation and Agri-environment every year through electronic data reporting.

A representative population (with an appropriate territorial distribution, location, size of the area) shall be selected as the data provider from among the producers meeting pre-defined criteria, using the two databases in combination, with the involvement of professional public bodies, based on a pre-defined methodology. The data providers should be defined in such a way that from their pesticide use data, using an appropriate statistical estimation procedure, the overall use of plant protection products in Hungary can be modelled for the main crops (peat wheat, maize, sunflower, rapeseed, grapes, apples).

The data thus obtained, together with the results of the environmental monitoring, provide the basis for the necessary measures and verify the effectiveness of the measures set out in the National Action Plan. On the basis of an evaluation of the data, development options should be explored to help solve problems and be widely disseminated with the involvement of specialist managers.

Target: Register of data on pesticide use in Hungary.

Required action:

- Amendment of the legislation on plant protection activities to the effect that the client contacted by the authority is obliged to provide such information.
- Establish a cooperation agreement between the state and specialised administrations involved in the collection of data, using the information that can be obtained from the database.
- Develop, with the assistance of experts, screening conditions in accordance with the directions set out in Annex II of Regulation (EC) No 1185/2009 concerning statistics on plant protection products to select data providers in order to carry out the task.
- Development of a data communication system.

Indicators:

- Number of pesticide treatments applied in the 6 indicator cultures

- The completion of extensive data collection on plant protection practices. Our aim is to carry out at least one such extensive data collection every 5 years.

5.2.4. Introduction of integrated cropping technology

Today, people's food consumption patterns are changing significantly. Integrated farming ensures consistency between the protection of human health, the production of quality food, the protection and preservation of the environment. Integrated farming is a harmonised, highly skilled cultivation technology, ranging from the choice of the place of production to consumption. This complexity across the entire food chain is perhaps best reflected in a common EU term "from farmland to fork", which is also the motto of the National Food ChainSafety Office.

On the basis of the above, the establishment of a regulatory framework for integrated farming is also the basis for sustainable agriculture in Hungary. A key element of this objective is the requirement of Directive 2009/128/EC on the sustainable use of pesticides, which requires all farmers to comply with integrated pest management (IPM) standards laid down in separate legislation from 1 January 2014.

In view of the mandatory introduction of integrated pest management, the uptake of integrated farming requires several levels of change in cultivation techniques:

• compliance with the conditions for integrated management in accordance with the relevant Directive 2009/128/EC

The mandatory standards for integrated pest management to be introduced under the Directive are set out in Article 43/2010. The Decree of the Minister for Agriculture and Rural Development defines it as an essential obligation to protect plants. Changes in consumption demand and market conditions make it necessary to introduce integrated farming, supported by a trademark, the fulfilment of which is possible at a high level of professionalism and can therefore only be implemented on a voluntary basis.

The elements of this system are:

- Application of Good Agricultural Practice (GAP) corresponding to the ecological conditions in Hungary
- Zoning and wise selection of plants that can be grown in a given place of production.
- Informed change of sowing: the diseases, pests and weed conditions of successive crops are different. It is also important to take into account the value of the pre-plant and the time of re-seeding.

• Variety selection: the place of production in question,



selection of the most suitable variety for cultivation techniques and production purposes, taking into account the resistance properties of the variety.

- Healthy controlled propagating material use, in particular virus and phytoplasma-free.
- Agrotechnical plant protection:
 - Tillage: smart tillage not only ensures optimal conditions for the development of



the plant, but also helps to reduce the infestation pressure (by turning plant residues, it is not possible to winter the pathogen, stubble tilling and stubble care to reduce the weed stock of the soil).



- Nutrient supply: good nutrient supply means that the plant is more resistant to pests



- Sowing: the right choice of time and method of sowing is decisive for the development of the plant



— A deployment/d eployment

when selected, the rules on the use of soil conservation land must be complied with.

- In the case of plantations, pruning: the aim is not only to adjust the balance, but it also has many plant protection effects (removal of infected parts, pathogens in the ventilated crown, etc.).
- Irrigation, using energy-saving irrigation methods to protect the soil structure (taking into account water quality, timing and duration of irrigation).
- Plant protection forecast (systematic monitoring of plant pests, trapping, measuring weather data, recording of data, use of data when deciding on the need for control, etc.).
- The choice of the control method, the exact timing of the defence.
- Mechanical plant protection: e.g. mechanical spacing, hopping, bark scraping.
- Physical plant protection procedures: e.g. soil vapour.
- Biological plant protection: cause and expedient use of natural enemies of pests. A wider use of this option is desirable, following an assessment of their impact on the environment and on the existing ecosystem.
- Chemical plant protection: In addition to exploiting the possibilities listed above, it may also be necessary to use predictive pesticide intervention in a targeted and timely manner. In the case of plant protection product control, use of the least onerous plant protection products, application by appropriate means, prevention, delaying and monitoring of the effects of resistance in the pest (recording of observations).

• The establishment of ecological corridors, ecological equalisation surfaces, forest strips, shrubs and tree groups for non-target organisms, providing shelter, feeding and breeding space for non-target organisms, and the priority protection of the beneficial living organisms established there.

In order to preserve or increase the number of pollinating insects, the creation of bands with flowering plants at the edge of arable land between fields, which are attractive to pollinator insects.



- Optimal design (width, part communities) and maintenance of waterside vegetation buffer strips to prevent contamination from the use or plant protection products.
- Proper harvesting and storage (determination of the date and method with regard to withdrawal periods).



- Prevent point contamination of soil and water during the works.
- Waste management (professional management and disposal of waste generated by cultivation technology).

Integrated farming and integrated pest management are extremely complex, integrating all the elements of cultivation technology into a system, so its implementation and application can be achieved through the use of highly qualified professionals. For all these reasons, it is necessary that the obligation to employ a plant physician is laid down by

law, i.e. that plant protection management can only be ensured by means of a written contract with a professional with a higher degree in plant protection.

As a result of the mandatory use of the specialist manager:

- the effectiveness of integrated technology is based on greater know-how, resulting in a measurable reduction in the amount of pesticides used and a reduction in the burden of plant protection products on the environment;
- a crop with smart integrated pest management leads to higher quality crops;
- the tasks of plant protection managers will be extended: in addition to ensuring access to and professional use of plant protection products, it must manage the plant protection activity in an integrated system.

Expertise related to integrated pest management may be provided as follows:

- higher education training in plant protection of good quality,
- 5 years of further training for plant protection managers,
- the initial and further training courses required of producers in plant protection.

The necessary pesticide control should be based on prediction. At plant level, prediction of pests is essential to determine the need for control and the optimal time for effective control. In fact, this means testing and assessing the ecological conditions of pathogens, the development of pests and the number of individuals in the critical stage of development in the crop. Pests shall be continuously monitored by appropriate methods and available means. Appropriate tools include on-site observations and science-based prediction and early diagnosis systems, and the advice of professionally qualified advisors should be used.

An integrated forecasting system with country coverage should be developed, based on a territorial basis for forecasting systems based on one another. In accordance with the legislation, this can be built and operated within the organisation of the Hungarian Chamber of Plant Protection Engineers and Plant Medicine using its expertise. Integrated technologies related to individual cultures should be developed on the basis of a common template, continuously reviewed and updated and made available to farmers.

Target: Develop and disseminate a single integrated management system that maximises environmental and health protection, ensures profitability, preserves biodiversity and natural resources and produces high-quality, healthy products.

The dissemination of this integrated approach contributes to:

- the proper use of plant protection products to ensure food safety, the protection of human health and the environment;
- for the production of healthy and safe plant products (lower pesticide-residue, less active substance in crops),
- to reduce environmental pressures (in particular the protection of groundwater, surface water and soil),
- conserving biodiversity;
- to increase consumer confidence in domestically produced crops.

Required action:

- Development of integrated crop management and plant protection guides. Continuous.

- Performing harmful hazard analyses. Encourage non-chemical control solutions and biological control methods.

- Regular development of farmers' know-how (training courses, further training, electronic and paper media).

Indicators:

- The number of certified integrated farmers and the size and share of the area they cultivate (as a share of the total agricultural area).

5.2.5. Organic farming

Hungary's favourable climate, high-quality farmland and long tradition of crop production and animal husbandry allow the food economy to produce excellent food in certain circumstances without synthetic products. Furthermore, nationally regulated restrictions on GM crop activities also provide a more favourable environment for organic food production. Organic farming has a positive impact on



EU öko logó

biodiversity, long-term conservation of soil fertility and environmental protection.

In view of its trend, arable production, which is dominated in crop structure, and meadow pastures tend tobecome permanent, but in terms of proportions of plantations, including vines, the area of plantations, including vines, has grown most in the last five years.

Support and regulatory policy instruments for conversion to and maintenance of organic farming make a significant contribution to the increase in the number of organic farmers and, at the same time, to an increase



in the areas under organic control. Over the last five years (2019-2023), the percentage of areas checked increased by 0.5 % (0.58 %) to 6.29 % (2023) over the total agricultural area.

As a result of the revision of the organic production rules, new regulations were applied in EU Member States, including Hungary, as of 1 January 2021. The new regulations will, among other things, simplify the rules, increase the range of products that can be certified, facilitate trade in organic products between the EU and third countries, and phase out exceptional production rules. The latter may be the biggest challenge for domestic organic growers, as there is still no significant progress in domestic bio-certified material production.

Target: Increase the number of farmers subject to the organic control and certification system, including the area checked and the quantity of certified products.

Actions required:

By its very nature, organic farming is best suited to be used more widely in areas with increased environmental and/or natural (e.g. nitrate vulnerable or statutory) sensitivity (e.g. nitrate vulnerable zones, legally protected areas).

• Encourage the spread of biological plant protection methods, including by adapting the legal environment to its specificities.

• Support research, development and innovation in nutrientmanagement and plant protection as a basis for the competitiveness and crop safety of organic farming.

- Dissemination and dissemination of existing technological methods for organic farming.
- Promoting the professionalism of organic managers.

• The continuation of plant protection practices appropriate to the needs of beneficial pre-organisations, including pollinators.

Support for organic farming

- Developing simple and clear standards for organic farming the terms and conditions of its support to promote its dissemination to the public.

Maintain a professional and lawful monitoring and control system.



Logos of domestic certification bodies

Dissemination and dissemination of organic farming:

- Develop specific organic crop rotation recommendations, describing agrotechnical and predictive tools, as well as control methods in case of emerging plant protection problems.

- Establishment of a supported management system involving farmers who already have a practice in organic farming:

- Exploit the phytosanitary impact of agro-technologies in organic production.
- Building a central forecasting system.

- Introducing procedures to reduce environmental risks in organic farming – preserving biodiversity and supporting programmes for the protection of beneficial living organisms (e.g. non-cultivated edges and strips, planting of kerb plants to feed pollinator insects). **Indicators:**

- Number of organic crop farmers.
- The size, share and crop distribution of the area under organic farming.
- Market share of organic products of non-animal origin.
- Number of plant protection and fertilising products/active substances authorised in organic farming.
- Quantities of plant protection products authorised in organic farming marketed
- 5.3. Environmental impacts of pesticide use

5.3.1. Aquatic environment and protection of drinking water bases

The use of plant protection products poses a risk to both non-target aquatic organisms and human health through contamination of surface and groundwater. It is the responsibility of the licensing authority to reduce this risk to an acceptablely low level by introducing risk mitigation standards.

Target:

- Prevent contamination of surface water and groundwater, with a particular focus on drinking water bases

- Protection of the environment of surface waters
- Protection of aquatic organisms

Actions required:

- Increase environmental awareness of amateur and professional pesticide users through awareness-raising of risk mitigation measures, host courses, further training, etc.

- Develop data collection to ensure the availability of data on the quantities and the place of use of plant protection products actually used in order to determine the effects of each product as accurately as possible.

- Facilitate the availability of low-load application techniques and encourage their uptake through communications and leaflets.

- Preparation and publication of a list of low-risk plant protection products that can be used in the environment of drinking water bases, particularly sensitive groundwater protection areas and surface waters.

- In the environment of surface water, the construction of a windshield and waterside vegetation that reduces the drift of the plant protection product, on a compulsory basis.

- Restrict the use of plant protection products in highly sensitive groundwater protection areas and in the vicinity of surface water on surfaces, roads, railway tracks, easily permeable or impermeable surfaces leading to rapid run-off, or encourage the use of low-risk plant protection products.

- The creation of a buffer strip along surface waters with vegetation of a minimum of 5 m.
- Restrictions, risk mitigation measures and the use of low-risk plant protection products and application techniques as provided for in the authorisation documents for plant protection products and in legislation are more strongly taken into account in the controls.
- Continuous monitoring of environmental compartments (soil, surface water vegetation, groundwater) for plant protection active substances in sensitive areas analysis and publication of these data, modification of the restriction of the use of the plant protection product if necessary, establishment of new buffer zones.
- Periodic review and extension of the list of monitored active substances.

Indicators:

- extent of contamination of the active substance surface water, drinking water, groundwater and soil plant protection product
- percentage of irregularities detected during inspections in the environment of water protection areas compared to the number of checks

5.3.2. Areas requiring special attention from the point of view of plant protection product use

In order to protect human health and protect the biodiversity and density of non-target organisms, it may be necessary to completely prohibit/restrict plant protection products in specific areas.

The following shall be considered as areas of specific sensitivity:

- parks
- playgrounds
- sports grounds
- environment of public institutions (e.g. hospitals, schools, kindergartens)
- railway track
- queen nurseries
- all other public spaces
- and nature reserves.

Target: Reduction of exposure to plant protection products from both humans and non-target organisms.

Actions required:

- Encourage the use of low-risk plant protection products for plant protection in populated areas. Completed, continuous.
- Development of criteria for the use of substances in specific areas.
- Continuous monitoring of environmental compartments (soil, surface water vegetation, groundwater) for active substances of plant protection products to detect impact on sensitive areas analysis and publication of these data, restrictions on the use of the plant protection product where necessary, definition of new buffer zones,
- periodic review and extension of the list of monitored active substances,
- increased monitoring of compliance with the risk mitigation measures provided for in the authorisation documents of plant protection products and in legislation,

Indicators:

- Extent of contamination of soils, surface water, groundwater, vegetation in priority areas.
- Rate of irregularities detected during checks in high-risk areas compared to the number of checks

5.3.3. Reduction of environmental pollution from waste from unused pesticides and packaging

Every year around 2000-2 200 tonnes of packaging contaminated with pesticides, mostly plastic cans (70 %), contaminated paper bags (20 %), associated waste (10 %) and metal waste are generated in Hungary. The collection and disposal of packaging and packaging contaminated with the plant protection product operates in a closed system organised by a non-profit company, financed by the plant protection product manufacturers/primarily distributors, as specified in the relevant legislation.

Historical, expired PPPs have decreased in recent years, partly as a result of the collection actions announced in previous years, but pesticide waste that has not yet been collected still poses a significant environmental and health risk. Their re-production is not expected due to economic and administrative reasons (high prices of plant protection products, foreseeable deadlines for the use of active substances to be withdrawn during the EU review programme, storage requirements, disposal in technology).

Target: A meaningful increase in the collection rate of packaging and packaging contaminated with plant protection products, increased utilisation and the safe disposal of plant protection product stocks that may

remain in the hands of farmers and users of plant protection products.

In line with the EU Packaging and Packaging Waste Directive and the domestic Packaging Regulation harmonising it, a significant increase in the collection rate of pesticide-contaminated packaging material was achieved between 2019 and 2023, bringing the proportion of collected packaging materials from 66 % to 77 %. The aim of the coming years is to bring this percentage to the highest possible level. Accordingly, packaging waste that is (potentially) contaminated with a plant protection product must be treated separately, unlike general treatment.

Required action:

- On the treatment of waste packaging contaminated with plant protection products. (IX.

Amendment of Decree No 11 of the Minister for Agriculture and Rural Development in accordance with the new Waste Management Act.

— Measures to be taken to reduce hazards from pesticide residues and packaging materials:

• Permanent elimination of historical pesticide waste, collection actions organising it in the counties that were left out

of previous actions. The implementation of an increased level of official controls in the counties concerned following the actions.

- An expired plant protection product may only bedisposed of/recovered in hazardous incinerators.
- Energy recovery of packaging contaminated with plant protection products and material recovery of plastic packaging.
- Increased controls on the collection, transport and treatment of packaging materials, plant protection products and treated seed packaging contaminated with plant protection products, and on the operation of waste management facilities and equipment.
- Strengthen cooperation between national authorities (environmental, plant protection) in professional work and official controls.
- Periodic joint official controls to detect historical pesticide waste stocks.



- Continuous and effective information to farmers, on the one hand, on the proper handling and collection of empty contaminated packaging and on the disposal (technology) of any remaining plant protection product that does not pose a danger to the environment.
- Continuous and effective provision of information to the general public on the dangers arising from the use of empty packages of plant protection products for other purposes. In addition to the non-profit company which has already carried out it, professional associations involved in the marketing of plant protection products are also involved in informing the general public and the general public.
- Prevent the re-accumulation of pesticide waste.

Indicators:

- Number of counties affected by collection actions. All counties are involved in collection actions.
- Amount of historical, expired plant protection products detected but not collected.
- Share of packaging waste collected.
- 5.3.4. Reduction of the risk of fault and misuse of application equipment

Application equipment and sprayers currently in use in Hungary have a mixed picture in terms of technical quality and state of play. In accordance with the relevant legislation, new machines (less than 10-12 years) have a marketing authorisation, and there is no illegal marketing of machinery in Hungary. The legislative framework is available for the system of official inspection of application equipment at regular intervals.

Target: Establish, implement and operate a system of periodic inspection of plant protection application equipment subject to inspection. Developing a high-quality, pesticide-efficient and safe regulatory, tendering and economic environment conducive to the least polluting operation of application equipment.

Required action:

Periodic inspection of plant protection application equipment system set up related measures:

- Providing multi-level and effective information to farmers and users of plant protection products subject to testing.



- Additional circumstance related to the periodic review, proposal:
 - applies to all devices with a tank capacity of 100 l or more,
 - include and develop air and rail application devices
- Creation of a single database. Deadline: continuous

Indicator: The number and proportion of machines that participated in the periodic inspection. Our aim is to review 100 % of machines within 3 years.

5.3.5. Protection of bees and other pollinator insects

Bees and other pollinators are responsible for pollinating most of the economically important food crops and wild plants, so their environmental and economic role is undisputed. From an environmental point of view, pollinators play an important role in maintaining the right ecological balance, so their disappearance and extinction would have fatal consequences for wildlife. Domestic bees are of major economic importance, as the apiculture sector is also an integral part of Hungarian and European agriculture. The most important product in the sector is honey, which is not only an excellent, flavourful diet but also a health-preserving effect, thanks to the vitamins and minerals it contains. The presence of bees and other pollinating insects and thus their protection is essential from an environmental and economic point of view.

Pollinators are affected by climate change, habitat and food resource constraints, bee health problems (e.g.: Varroa mite, diseases) and, in particular, the use of pesticides, especially insecticides

Uterine poisoning suspected of being caused by plant protection products may be individual cases or national cases. Since 2013, they have been subject to a set of rules of procedure adopted by professionals, which define the responsibilities for plant protection and animal health. The procedure starts with the declaration of the injured beekeeper and ends with a case-by-case report from the authority, which forms the basis for subsequent legal proceedings.

In addition to the decline in the population of other pollinators, wild bees, butterflies, etc., as a result of the irregular use of pesticides, domestic bees and abnormal behaviour (e.g. the phenomenon of 'machine bees') are also expected to decline. Thus, in addition to damage to beekeeping, the person causing the damage must also be liable for damage to nature.

The Hungarian Association of Apiculture (OMME) holds regular technical meetings with representatives of plant protection product authorisation to address problems that can be addressed jointly. In the light of experience and professional arguments, it is possible to suspend certain uses, change the phenological stage, etc.

In a nationwide extension, residue monitoring studies are launched for flowering crops, to detect illegal and regulatory use of substances and improve the living conditions of insects. At the same time, the



communication of results stimulates the use of environmentally conscious substances.

Target: Reducing the occurrence of bee poisoning, maintaining pollinator populations and improving their

living conditions

Actions required:

- Survey of species richness and density of non-target insect organisms
- country-wide sampling on flowerous crops in attractive crops for bees within the framework of a pesticide residue monitoring programme (joint monitoring with OMME)
- investigation of presumed bee poisoning on the basis of a multidisciplinary procedure, evaluation and publication of results, continuous review and necessary amendment of the rules of procedure
- construction of a pesticide residue database through official experiments to objectively assess the residue content of samples taken in bee poisoning cases
- review and maintenance of precautionary requirements for bees and other non-target arthropods in plant protection product authorisation documents
- Promotion of faunistic research and surveys by universities and research organisations in the environment of agricultural land
- Encourage the establishment of food resources and nesting areas for beneficial pollinating organisms in the form of flowering strips and bee-hotels, in addition to the cultivated areas, in order to maintain biodiversity.

Indicators:

- ratio of the number of bee mortalities proven to be caused by a plant protection product in relation to the number of cases reported. Our aim is to keep the value below 10 %.
- the ratio of the number of bee poisonings reported to the total number of beekeepers. Our aim is to keep the value below 1 %.

5.4. Illegal use of pesticides, elimination of black technologies

5.4.1. Reduction of Black Technologies 1

In Hungary, a significant number of active substances and, by implication, a large number of plant protection products have been withdrawn over the last decade. For some crops, effective action against certain pathogens and pests has become almost impossible with the reduction or loss of authorised plant protection products. In order to maintain crop production and food safety, the

- Black technology: Use of a product not authorised in culture.

the authorisation documents for plant protection products contain precise requirements for the use of plant protection products by culture.

Target: The aim should be to provide farmers with authorised control options for all major crops (main and small crops) grown in Hungary, where non-pesticide prevention techniques cannot prevent damage. The number of black/non-authorised uses will be reduced if authorised technology can be used to control the pest.

Expected outcome: the implementation of the planned measures will reduce the proportion and extent of black technologies, thus reducing damage to human health and environmental pressures.

Actions required:

- Transparent, swift and smooth handling of applications to overcome small culture and technological problems. Completed, continuous
- Receiving, as far as possible, authorisations issued in other Member States, and reciprocal acceptance of licence documents. Completed, continuous
- Monitoring of contested residue levels from the authorisation side ('post-registration monitoring').-Completed, continuous
- Increased monitoring of spraying logs and, if necessary, appropriate sanctions. Completed, continuous
- Detect and sanction the illegal use of unauthorised plant protection products. Completed, continuous

Indicators:

- Number of official technology controls, rate of non-compliances. Purpose: Below 5 %
- Evaluation based on the results of pesticide residue studies, percentage of products objected to. Purpose: Below 5 %
- Number of plant protection products authorised in small cultures (number of extensions, number of changes to documents or number of new documents issued). Purpose: A minimum of 5 cultures per year.

5.4.2. Control of pollution by illegal pesticides

Within the European Union, making use of the free movement of goods, plant protection products that are not authorised in Europe are emerging. The professional and safe use of authorised plant protection products is subject to strict documentary requirements, while the use of illegal plant protection products poses a serious risk to food safety, the environment and human health:

- their health effects have not been studied (may have a direct toxic effect on the human body or accumulate

as a harmful substance in the body or even cause allergies), potentially hazardous and toxic pollution, unverified by-products

may contain acute or chronic health effects on implementers;

- the toxic substances of uninvestigated substances may endanger the environment in the shorter to longer term, and may also enter the food chain from environmental media;
- the fruit to be protected may be damaged or even destroyed;
- the crop shall not be consumed or sold, it shall be completely destroyed;
- due to the uncertain composition and properties of counterfeit or illegal plant protection products, the harvested crop may contain unknown and uninvestigated pesticide residues, degradation products and may endanger consumer health and the environment;
- pesticide counterfeiting is part of organised crime and is also a matter of national security (e.g. detonation may also lead to a disaster situation);
- the manufacturer does not assume responsibility for falsified plant protection products, does not provide any real expert advice on their use, and there is no background repairer;
- in the case of a false plant protection product, the antidote is unknown if poisoning occurs to protect data, the right to intellectual property is infringed as a result of falsification of pesticides. The perception of industry and of plant protection products in general is deteriorating, the safety of production and the food chain is weakened, which hampers innovation and reduces competitiveness and consumer confidence. This could have a very serious negative social impact and economic damage in the long term. Black trade also causes considerable damage with the loss of tax revenues. International and domestic cooperation is needed to stop and reverse the increasing trend of counterfeiting. In Hungary, it is estimated 2-3 % of counterfeit and illegal pesticides this is below the assumed European average (5-7 %). Its main drivers are, on the





demand side, increased price sensitivity due to the hectic production and economic environment, still low profitability and lack of capital. On the supply side, the lack of awareness of certain producer circles as to the risks and risks that may arise may be encouraged.

Target: Reducing pollution by illegal pesticides.

Required action:

- Priority control by the authority, checks/samplings on risk assessment

design, concentration and differentiation based on it. Completed, continuous. Provision of official laboratory work.

- Equip the pesticide quality control laboratory with the appropriate apparatus and increase its capacity. Completed, continuous.
- The organisation of a multi-level, effective information campaign to users, running continuously before and during the high use season, containing the content of the risks, signs and means of avoidance of false/contested plant protection products.- Completed and continuous.
- Continuous operation of a free reporting interface to detect suspicious cases encountered

(internet helpdesk). Completed, continuous.

- Closer cooperation with the National Tax and Customs Authority (NAV), the Police in the investigation of specific cases, involving, where necessary, international authorities. Completed, continuous.
- Closer cooperation between trade associations (chambers, producers, traders, producers) in space: organisation of joint events and production of publications. Building a close and continuous relationship with the National Anti-counterfeiting Board (HENT). Completed, continuous.

Indicators:

Official controls (manufacturers, installers, distributors, users).
 Rate of non-compliance observed in checks. Purpose: Below 1 %.

5.5. Increased monitoring of the use of plant protection products in accordance with good plant protection practice

Compliance with technological standards for the use of plant protection products is essential to protect the environment and human health. The plant protection authority examines whether the requirements of the legislation and licence documents have been complied with in the course of the plant protection activity, as part of the technical inspections carried out at the premises and at the place of production. By increasing the number of



checks, more attention can be given to farmers' compliance with the law during spraying.

Target: Compliance with the requirements of the Directive, improvement of technological discipline.

Required action:

- Data collection on pesticides used – Completed, continuous.

- Strengthen professional management on the correct and sufficient use of plant protection products. Completed, continuous.

- Introduction of an official monitoring system for plant protection based on risk analysis.
- Publication of an annual report on official controls Marketing Completed and continuous.
- Verification of compliance with good agricultural practice in accordance with the requirements of the licence document. Completed, continuous.

Indicators:

- Rate of irregularities detected during official controls for all controls relative to. — Our objective is to keep the rate of irregularities below 1 %.
- 5.7. Social awareness organisation of campaigns

Purpose: Raising awareness among users, farmers, gardeners and the general public of plant protection products

Required action:

- Launch programmes involving professional and civil society organisations to raise public awareness. Completed, continuous.
- Encourage the reduction of pesticide use.
- Provide detailed information to interested parties upon request. Completed, continuous.
- The annual summary results of pesticide residue studies shall be made available on the internet in a form comparable to previous years.
- The plant protection product licensing authority shall make public the authorised active substances and preparations of plant protection products:
- An online database on authorised active substances and preparations of pesticides;

- Fulfilled, continuous



- Database of plant protection products authorised by derogation (necessary use, 120 days of ad hoc use) available on the internet Completed, continuous
- The authority shall make public the authorisations granted for aerial spraying. Completed, continuous.
- Maintaining environmental awareness in specialised training courses in agricultural universities and in host courses. In addition to prudent use of substances, display measures to improve the quality of life of pollinators, such as the installation of nesting sites for wild bees, the establishment of prolonged flowering pollen strips, etc.
- Produce publications targeting amateur users on irregular use of the substance, interpretation of risk mitigation measures and the importance of complying with them. Dissemination of knowledge through leaflets and events.

Indicator: Number of inhabitants reached by campaigns.

5.6. Operation of a network of plant protection managers with the involvement of public bodies and professional public bodies

In order for farmers to make the right decisions on how to use sustainable, environmentally sound and at the same time economic plant protection procedures to produce quality products, to prevent epidemics and degradation, there is a need for objective cooperation with a specialist plant protection manager who is independent of the producer or trader. This is because the vast majority of farmers are not familiar with environmentally sound practices, integrated cultivation and plant protection methods, the rational use of plant protection products, how to express their impact, and the biology and ecology of pests. By setting up a network of specialist managers, it is possible to use the advice of a plant physician who is familiar with the area, whether or not it is environmentally sound, with or without plant protection products, and preventative procedures.

Target: Include in the annual forecast, based on the multi-annual data set, the results of experiments developed for small-scale labelling levels and organised and evaluated by professional public bodies, optimising and reducing the number of annual crop protection treatments.

Required action: Operation of the network of professional plant protection managers by the Hungarian Chamber of Plant Protection Engineers and Plant Medicine (proposal: establishment of the legal framework for the obligation to cooperate with a plant physician). Completed, continuous

Indicator: Proportion of producers cooperating with specialist plant protection managers in relation to the number of producers receiving support. Our aim is to keep the value above 25 %.

6.1. National Plant Protection Education, Research and Innovation Programme

6.1.1. Development of a training system in line with the integrated pest management approach

Target: Crop protection training should aim to develop an integrated and ecological pest management approach,

skills and practice, taking into account the NCST target areas.

Required action:

- Set up the structure and the themes of plant protection training, organise training and information by ensuring public oversight.
- Basic and secondary OKJ training courses should incorporate the basic course. BSc and MSc higher education courses in agriculture and horticulture should aim to ensure that at least at the basic training level the material on plant protection is taken up and that an integrated approach is taken into account through the training of crop subjects.
- Water resource protection education, strengthening environmental and health protection aspects.
- Specialist plant protection management, service, specialist management, distribution and use of plant protection products subject to prescription, crop protection forecast, farmers non-formal training, plant physicians, graduated in plant protection further training may only be provided with higher education in plant protection.
- The system of higher-level plant protection training should be reviewed, in particular with a view to incorporating general agronomic knowledge and the latest scientific evidence into practice-oriented, integrated training. The possibility of introducing an undivided 5-year training (MSc) into the plant medical training system should be explored.
- Plant physicians training should aim to develop an integrated and ecological pest management approach, skills and practice, taking into account the NCST target areas.
- Plant protection graduates are required to undergo training every 5 years or continuous training at 43/2010.
 (IV. Decree No 23 of the Minister for Agriculture and Rural Development. Completed, continuous.
- Training on the use of safe pesticides in agricultural vocational schools, universities and further training

Indicator: Number of participants in training sessions.

6.1.2. Development of a National Plant Protection Research and Innovation Programme

Without strong research support, the objectives set out in the National Action Plan cannot be achieved.

Target: The development of sustainable, integrated and alternative plant protection technology systems to ensure the production of food strategic raw materials and to maintain and promote theability of farms to compete, whereby environmental pressures from the use of agro-chemicals are minimised while ensuring maximum yield security. There is a need to explore the possibilities of reducing pesticide use (dissemination of natural enemies, pollination, etc.). It is necessary to prepare for changes in the spread of pests (patients, pests, weeds) due to climate change in time and space.

Required action: Development of a National Plant Protection Research and Innovation Programme:

A. Establishing priorities, based on available technologies and culture-specific crop protection methods:

- carrying out research to support the development of integrated pest management
- examination of the possibility of substitution of substances for substitution
- it is necessary to research the synergistic effects of the active substances,
- research, modelling of pathways for the propagation of plant protection products (active substances) in the environment and environmental impacts are needed;
- encouraging research on improving bio-efficiency,
- assessment of the combined effects of the various substances, from the point of view of effectiveness, environmental impact and health,
- development and technological upgrading of biological, agrotechnical and biotechnological control methods to optimise the use of plant protection products,
- research into alternative methods of plant protection that are environmentally sound and pose the least risk to human health.
 - Simplifying the domestic authorisation procedure for macro- and micro-organisms suitable for biological control, integrating them into plant protection technologies and promoting their application.
 - Support the development or authorisation of devices and equipment for trapping or alarming pest species, integrating them into plant protection technologies and facilitating their application.
- Development of the basis for a pest forecasting system.



- Research should be carried out on the likely effects of climate change and possible solutions for adaptation, in particular on plant protection (heating, increasing frequency and extent of extremes and consequent emergence of new pests, more frequent and severe action of fungal diseases in more wet periods, changes in the wintering of pests due to warming, etc.). —

- Develop cost-effectiveness analyses for pesticide use.

- Resistance breeding

re-cultivation of old traditional resistant varieties of arable crops, fruit, vines, vegetables and herbs;

the use of old traditional resistant varieties of arable crops, fruit, vines, vegetables and herbs (biological funds, gene banks) in further breeders' work,

domestic production of new, resistant (non-genetically modified) varieties of arable crops, fruit, vines, vegetables and herbs;

incorporation into public production of newly bred domestic and foreign resistant (nongeneticly modified) varieties of arable crops, fruit, vines, vegetables and herbs;

domestic institutes (e.g. Gabonakutató Nonprofit Publichasznú Kft., MTA Agricultural Research Centre) dedicated to the maintenance and preservation of old varieties (Genebanks Plant Diversity Centre, Tápiósele) and breeding institutes; State Gyümölcs & Dísz Crop Research Fejlesztő Közhasznú Nonprofit Kft., Cegléd, Érd, Újfehértó; Research Institute for Vine and Wine, Badacsonytomaj, Eger, Kecskemét, Pécs, Tarcal; Research Institute on Vegetables, etc.) targeted support (resistance breeding),

scientific examination of food safety issues based on agricultural plant protection practices (pesticide residues, mycotoxins, transgenic products, etc.), and promotion of research to ensure and improve food safety from land to fork,

credible presentation of the results (variety presentations, television and radio reports, newspaper articles, etc.) – strengthening trust;

- development of culture-specific IPM guides,
- development of research programmes,
 - taking into account farmers' needs and local conditions in the development of research programmes.
- A. To establish the scientific basis for national IPM policy.

- **B.** Support for participation in international research and cooperation (IOBC, ENDURE, EUPHRESCO).
- **C.** Creating the necessary resources.

Indicators:

- Number of alternative plant protection technologies developed and reduced pesticide use.
- Number of participants in international research.