In response to information provided by the competent authority, any factual error noted in the draft report has been corrected; any clarification appears in the form of a footnote.
Executive Summary

This report describes the outcome of an audit in Hungary, carried out from 5 to 14 March 2018 as part of the published Directorate-General for Health and Food Safety programme for 2018.

The objective of the audit was to evaluate the implementation of relevant measures to achieve the sustainable use of pesticides, in particular the implementation of the requirements set out in Directive 2009/128/EC of the European Parliament and of the Council.

Hungary has taken action with the objective of implementing the requirements of Directive 2009/128/EC. Several weaknesses, identified by DG Health and Food Safety in the assessment of Member State National Action Plans and in the Hungarian response to a questionnaire, have either been addressed or satisfactory clarifications were provided.

The first National Action Plan (NAP), covering the period 2013-2017, lacks overall quantitative objectives and quantifiable targets for the reduction of risks and impacts of pesticide use, which does not satisfy the requirements of the Directive. This makes it impossible to demonstrate progress towards meeting the objectives of the Directive. In addition, the NAP had not been reviewed within a five year period, as required by the Directive.

There are important areas, where further action is needed to meet requirements of the Directive. In particular, this applies to aerial spraying and to inspection of pesticide application equipment.

Although a system has been established to assess the implementation of Integrated Pest Management principles, these official controls cover only a small percentage of plant protection products used by professional users.

The report makes recommendations to the competent authorities to address the shortcomings identified.
TABLE OF CONTENTS

1. INTRODUCTION .......................................................................................................1

2. OBJECTIVES AND SCOPE .......................................................................................1

3. BACKGROUND .........................................................................................................2
   3.1. Legal Context .....................................................................................................2
   3.2. Background ........................................................................................................3
   3.3. Country Profile and Statistics ............................................................................4

4. FINDINGS AND CONCLUSIONS ............................................................................5
   4.1. National Action Plan ..........................................................................................5
   4.2. Training and Certification of Operators .............................................................8
   4.3. Information and Awareness-Raising ................................................................10
   4.4. Pesticide Application Equipment .....................................................................12
   4.5. Aerial Spraying ................................................................................................13
   4.6. Water Protection ..............................................................................................17
   4.7. Integrated Pest Management ............................................................................19

5. OVERALL CONCLUSION ......................................................................................21

6. CLOSING MEETING ...............................................................................................21

7. RECOMMENDATIONS ...........................................................................................22
ABBREVIATIONS AND DEFINITIONS USED IN THIS REPORT

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAP</td>
<td>Common Agricultural Policy</td>
</tr>
<tr>
<td>CA(s)</td>
<td>Competent authority(ies)</td>
</tr>
<tr>
<td>CGO</td>
<td>County Government Offices</td>
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<td>EU</td>
<td>European Union</td>
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<td>ha</td>
<td>hectares</td>
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<tr>
<td>The Chamber</td>
<td>Hungarian Chamber of Professionals and Doctors of Plant Protection</td>
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<tr>
<td>IPM</td>
<td>Integrated pest management</td>
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<tr>
<td>MRL</td>
<td>maximum residue levels</td>
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<tr>
<td>MS(s)</td>
<td>Member State(s)</td>
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<td>MoA</td>
<td>Ministry of Agriculture</td>
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<td>MHC</td>
<td>Ministry of Human Capacities</td>
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<tr>
<td>NAP(s)</td>
<td>National Action Plan(s)</td>
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<tr>
<td>NFCSO</td>
<td>National Food Chain Safety Office</td>
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<tr>
<td>NPHI</td>
<td>National Public Health Institute</td>
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<tr>
<td>PAE</td>
<td>Pesticide Application Equipment</td>
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<tr>
<td>PPSCU</td>
<td>Plant Protection and Soil Conservation Units</td>
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<tr>
<td>PPC</td>
<td>Plant Protection Committee</td>
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<tr>
<td>PPP</td>
<td>Plant protection product</td>
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<td>SUD</td>
<td>Sustainable Use of Pesticides Directive</td>
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<tr>
<td>UAA</td>
<td>Utilised agricultural area</td>
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</tbody>
</table>
1. INTRODUCTION

The audit formed part of the Directorate-General for Health and Food Safety (DG Health and Food Safety) planned programme for 2018. The audit took place from 5 to 14 March 2018. The audit team comprised three staff members from DG Health and Food Safety and one expert from a European Union (EU) Member State (MS).

This audit was carried out in agreement with the Competent Authority (CA).

Relevant legislation is listed in Annex I.

An opening meeting was held with the Ministry of Agriculture (MoA), the Ministry of Human Capacities (MHC), the Ministry of Interior, the National Food Chain Safety Office (NFCSO), the Hungarian State Treasury, the County Government Offices (CGO) of Bekes Veszprem and Tolna, the National Public Health Institute (NPHI), and representatives of the National Agricultural Chamber and the Hungarian Chamber of Professionals and Doctors of Plant Protection, hereinafter referred to as "the Chamber". At this meeting, the audit team confirmed the objectives of, and itinerary for, the audit and information required for the successful completion of the audit was requested. The audit team was accompanied throughout the audit by representatives of MoA and NFCSO.

2. OBJECTIVES AND SCOPE

The objective of the audit was to evaluate the implementation of relevant measures to achieve the sustainable use of pesticides, in particular, the implementation of the requirements set out in Directive 2009/128/EC of the European Parliament and of the Council, hereinafter referred to as the Sustainable Use Directive (SUD).

While the scope of the audit covers the implementation of the SUD, this audit focused on the implementation of the requirements related to National Action Plan (NAP) and integrated pest management (IPM) and certain specific aspects of SUD which had been previously raised with the Hungarian authorities.

In order to meet the above listed objective, the following meetings were held:

Table 1: Audit visits and meetings

<table>
<thead>
<tr>
<th>Visits/meetings</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competent Authorities</td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td>Ministry of Agriculture (MoA), Ministry of Human Capacities (MHC), Ministry of Interior, the National Food Chain Safety Office (NFCSO) and the Hungarian State Treasury.</td>
</tr>
<tr>
<td>Regional</td>
<td>Plant Protection and Soil Conservation Department of the Counties of Bekes, Tolna and Veszprem.</td>
</tr>
</tbody>
</table>
### On-Site-Visits

<table>
<thead>
<tr>
<th>Professional users</th>
<th>Three conventional farms – to observe inspections by relevant CAs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pesticide Application Equipment (PAE) testing stations</td>
<td>One visit to a Pesticide Application Equipment testing station.</td>
</tr>
</tbody>
</table>

### 3. BACKGROUND

#### 3.1. LEGAL CONTEXT

The 2006 Thematic Strategy on the sustainable use of pesticides led to a new legislative framework for the approval and use of pesticides. This includes a strict framework for the approval of active substances by the European Commission and the authorisation of plant protection products (PPPs) by MSs, introduced by Regulation (EC) No 1107/2009, adopted on 21 October 2009. This Regulation requires active substances and PPPs to be authorised only if they have no identified harmful effects on human and animal health, and no unacceptable effects on the environment, and PPPs to be applied according to the authorised conditions of use. Plants treated with authorised pesticides in line with the product label can be marketed and consumed as safe food, with pesticide residues within the EU maximum residue levels. Directive 2009/128/EC of the European Parliament and of the Council on the sustainable use of pesticides, (the SUD), was adopted on the same date (21 October 2009) as part of the above mentioned Thematic Strategy.

Article 4 of the SUD requires MSs to adopt NAPs to set up quantitative objectives, targets, measures and timetables to reduce risks and impacts of pesticide use and to encourage the development and introduction of IPM and of alternative approaches or techniques in order to reduce dependency on the use of pesticides. In addition, the NAPs must also include indicators to monitor the use of PPPs containing active substances of particular concern, especially if alternatives are available. NAPs must be reviewed at least every five years and any substantial changes shall be reported to the Commission without undue delay.

The SUD also specifies measures that MSs are required to include in their plans for proper implementation. The main actions relate to training of users, advisors and distributors, inspection of pesticide application equipment (PAE), the prohibition of aerial spraying, limitation of pesticide use in sensitive areas, and information and awareness-raising about pesticide risks. A cornerstone of the SUD is the promotion of IPM, for which general principles are laid down in Annex III to the SUD. The deadlines established by the SUD for implementation of all above measures were phased over the period November 2011 to November 2016. Since November 2016, (when PAE inspection became compulsory), MSs are required to implement all the relevant measures of the SUD.

Article 55 of Regulation (EC) No 1107/2009 requires PPPs to be properly used. Proper use includes the application of the principles of good plant protection practice, compliance with the conditions established in accordance with Article 31 of the same Regulation, and
specified on the labelling. Article 55 also stipulates that proper use includes compliance with the provisions of the SUD and, in particular, with general principles of IPM, as referred to in Article 14 of and Annex III to the SUD. In addition, Article 68 of Regulation (EC) No 1107/2009 requires MSs to carry out official controls in order to enforce compliance with that Regulation, including marketing of PPPs and their proper use.

3.2. BACKGROUND

In the period January 2012 – June 2016, two audit series in the area of pesticides were performed, which focused on the control systems for the marketing and use of PPPs. In addition, some SUD related aspects were covered. Audits were performed in 25 MSs, of which five MSs were visited in both series. The outcome was summarised in the following two Overview Reports: http://ec.europa.eu/food/audits-analysis/overview_reports/details.cfm?rep_id=79 and http://ec.europa.eu/food/audits-analysis/overview_reports/details.cfm?rep_id=109.

Since then, in order to assess the level of implementation of the SUD, the Commission took the following action:

- Evaluation of MS NAPs, which was finalised in early 2015 and then presented to MSs in September the same year, identifying common weaknesses and good practices in these plans;
- A web-based questionnaire was sent to all 28 MSs in December 2016 to obtain an overview of the progress made by MSs with regard to SUD implementation and implementation of their NAPs;
- Fact-finding missions in the period March to June 2017, when six MSs were visited (Germany, the Netherlands, Italy, Denmark, Sweden and Poland).

Following the above actions, the Commission submitted a report to the European Parliament and the Council on Member State National Action Plans and on progress in the implementation of Directive 2009/128/EC on the sustainable use of pesticides. The report was published on 10 October 2017 and it is available on the DG Health and Food Safety website:


This report was discussed at the AGRIFISH Council meeting on 06 November 2017 and at the Agriculture and Rural Development (AGRI) Committee of the European Parliament on 13 November 2017. This report was complemented by an overview report, which provides more details on the state of SUD implementation in individual MSs, including good practices identified and main obstacles encountered by MSs: http://ec.europa.eu/food/audits-analysis/overview_reports/details.cfm?rep_id=114.

The NAPs are the means by which MSs establish targets and actions to achieve the objective of the SUD, and they can be seen to represent a significant step towards the sustainable use of pesticides. The report to the European Parliament and the Council concludes, however, that, despite the substantial progress made by MSs, there are significant gaps in many areas of their NAPs, for example in relation to aerial spraying, information to the public, the gathering of information regarding poisoning cases and measures to protect the aquatic environment.
As IPM is a cornerstone of the SUD, it is therefore of particular concern that MSs had not yet set clear targets or ensured their implementation, including for the more widespread use of land management techniques such as crop rotation. According to the report, MSs need to improve the quality of their plans, primarily by establishing specific and measurable targets and indicators for a long term strategy for the reduction of risks and impacts from pesticide use. These improvements should be included in the revised action plans, which would allow MSs to continuously monitor progress with implementation and adjust strategy as necessary.

The Commission wrote to all 28 MSs, specifying the shortcomings identified in either the NAPs or in their implementation, and to remind them of their obligations and the importance of the implementation of the SUD.

In order to facilitate MSs and relevant Commission services with the exchange of information on NAP and SUD implementation DG Health and Food Safety has launched an SUD web-portal: https://ec.europa.eu/food/plant/pesticides/sustainable_use_pesticides_en in October 2017.

Building on the series of six fact-finding visits to MSs in 2017, the Commission will continue evaluating the NAPs and to monitor implementation of the SUD by MSs through its audits, other actions and follow-up activities to ensure that the objectives of the SUD are being achieved.

In 2018, the Commission initiated a new audit series to MSs on SUD implementation and progress made on the implementation of their NAPs. In 2018, it plans to visit four MSs. This was the second audit of this audit series.

### 3.3. Country Profile and Statistics

DG Health and Food Safety has published a country profile for Hungary (Ref. Ares(2016)302028-20/01/2016), which can be found on the web-site of DG Health and Food Safety [http://ec.europa.eu/food/audits-analysis/country_profiles/details.cfm?co_id=HU](http://ec.europa.eu/food/audits-analysis/country_profiles/details.cfm?co_id=HU), summarising the control systems for food and feed, animal health and welfare, and plant health, and giving an overview on the implementation of recommendations of audit reports.

According to the Agricultural Census 2010 of the Statistical Office of the European Union (Eurostat), Hungary was the ninth biggest MS with regard to utilised agricultural area (UAA). According to data provided by the Hungarian CA, the UAA was 5.35 million hectares (ha), and the forest area was 2.1 million ha in 2016. In the same year, the area dedicated to organic farming was 186 322 ha representing 3.5 % of the total UAA. Within the EU, 20 MSs had a higher percentage of UAA dedicated to organic production in 2016.¹

Regarding the use of agricultural land, around 80 % of the UAA is arable land, 14 % permanent grassland and meadows, and permanent crops sharing a marginal 3.3 %. The arable land is mainly dedicated to the production of cereals (2.5 million ha in 2016), industrial crops (around 0.8 million ha), and fodder crops (280 000 ha). In terms of

production, Hungary is the eight largest producer of cereals in the EU with 16.6 million tonnes, and the third largest in production of maize.

In terms of use of PPPs, the CA reported that a total of 9.7 million kg of PPP (as active substance) were traded in Hungary in 2016.

4. FINDINGS AND CONCLUSIONS

4.1. NATIONAL ACTION PLAN

Legal Requirements


Findings

1. The first NAP was adopted in November 2012 and covered the period 2013-2017. It is available at the NFCSO web site.

2. The MoA, in cooperation with the NFCSO, acting as the CA, started the review of the NAP in autumn 2017. The review is led by the MoA and the NFCSO, with the support of the Plant Protection Committee (PPC), which is the responsible body for the NAP. The PPC includes several non-governmental organisations (the Chamber, Grain Producer’s Association – Hungary, Greenpeace Hungary, National Agricultural Research and Innovation Centre, Plant Protection Institute of the Hungarian Academy of Sciences, Hungarian Crop Protection Association, Hungarian Association of Traders of Plant Protection Products and Fertilisers, Hungarian Beekeeper’s Association), and representatives of other relevant CAs responsible for public health, nature conservation and environment protection, who are permanent members of the PPC.

3. During the last quarter of 2017, the responsible authorities had gathered information on the current situation of the areas covered by the NAP to provide the PCC with information on the implementation of the plan. However, the CA stated that there are no annual reports, and it is not foreseen to draft a report following the review of first NAP. The MoA and NFCSO stated that the indicators for targets included in the NAP would be under evaluation until summer 2018. The PPC has the responsibility for the amendment of the NAP. The CA indicated that it was planned to finalise the draft of the revised NAP and make it available to the public through the PPC, and by publishing it on the website of the MoA. The CA stated that two weeks would be allocated for the public consultation of the revised NAP. The revised NAP is expected to be adopted by the end of 2018.

4. The NAP 2013-2017 established two main objectives:

- To maintain an adequate level of plant health in Hungary by applying the minimum amount of PPPs;
- Reduction of risks to human health and the environment arising from PPP use and from pest management programs, and minimising risk by establishing appropriate risks mitigating measures. This latter objective is further developed by risk mitigation measures with regard to different aspects, including the following:
- reduction of operators’ exposure to prevent health risks and pesticide poisonings;
- reduction of risks for consumers;
- reduction of the pollution of soil, surface and ground waters, and air;
- protection of non-target organisms and mitigation of related risks;
- substitution of PPPs of concern;
- promotion of use of low-risk PPPs;
- support of environmental-friendly PPP;
- suppression of unnecessary treatments or high-dose treatments;
- fight against the placing on the market and use of illegal PPPs;
- reduction of waste generated and reduction of damage to the environment caused by the use of PPP;
- mitigation of risk factors associated with aerial spraying in order to achieve safe use of PPPs by using this technique;
- promotion of IPM, biological control, non-chemical alternatives and organic farming;
- establishment of an independent advisory network with regard to PPP use.

5. In order to achieve these objectives, the NAP set out a number of measures, including specific actions to be taken and indicators to demonstrate progress. However, in the majority of cases, there were no quantifiable targets, but rather statements of intention for reduction/increasing, with no reference to a quantifiable goal. Some examples are listed below, as follows:

- Measure 5.2. on the marketing of PPPs: Several sub-objectives were set, including marketing of PPPs only by a trained and qualified person, providing advice to end users at the time of purchase, and decrease in the number of MRL exceedances that are caused due to lack of knowledge of PPP operators. Although this measure established some information to be gathered, such as the number and results of official controls carried out on the marketing and use of PPPs, and the number of certificates of competence issued, there were no targets set allowing for evaluation of the progress.

- Measure 5.3. on PPP use by trained operators: The objective was that PPP applications shall be performed only by persons having adequate qualification and knowledge. The information to be gathered for this measure included the number of offences found during official controls or the number of poisoning cases caused by PPPs. However, no quantifiable targets to be achieved had been set for this measure.

- Measure 5.3.2. on aerial spraying: The objective was to decrease the risk posed by drift. However, the related indicative information included the number of derogations granted for aerial spraying and the number of cases, where damages were found due to drift, with no quantifiable targets either in the area affected or in the number of cases.
• Measure 5.3.6. on organic farming: The objective was to increase the number of producers and area dedicated to organic production, but no quantifiable targets had been set.
• Measure 5.4.3. on reduction of risks associated to PAE: The objective was that PAE shall be subject to inspection, and the related indicator was the number of PAE having passed the test. However, the NAP did not quantify the number of tested PAE items to be achieved.
• Measure 5.6.2. on PPP monitoring programme: The objective was to mitigate environmental and human health risks, posed by PPPs, and to perform targeted monitoring of which active substances are contained in PPPs. Again, there was no specific target to achieve, such as the number of controls and ratio of cases where pesticide residues were found.

6. Regarding the use of PPPs containing active substances of particular concern, the CAs had not established a list of substances that may fall under such consideration in Hungary and consequently, targets have not been defined for the reduction of use of such substances, as required by Article 4 (1) of SUD. The CAs stated that there was no harmonised definition or criteria at EU level to decide what substances should be considered as substances of particular concern. In the view of the CAs, new data requirements for the renewal of active substances approvals and PPP authorisations are strict enough to identify those products, which should be withdrawn from the market. However, the conclusions on the assessments of active substances are only available for those substances, included in the renewal programme each year. In addition, the EU has agreed on certain active substances, which are considered as candidates for substitution, which could have been subject to particular surveillance. However, the CAs have not focused on these substances either.

**Conclusion on NAP**

7. The NAP did not establish clear targets and measures to reduce the risks and impacts of pesticide use on human health and the environment. This approach does not meet the requirements of Article 4 of the SUD. Moreover, this makes it more difficult to use the NAP as a tool to conclude on the current situation and evaluate the progress achieved.

8. Although steps for the review of the NAP had been initiated, at the time of the audit the review had not been concluded within the timeline of five years set in Article 4(2) of SUD.
4.2. TRAINING AND CERTIFICATION OF OPERATORS

Legal Requirements

Article 5 of Directive 2009/128/EC on training and certification

Article 6 of Directive 2009/128/EC on pesticide sales

Findings

9. The Hungarian Decree 43/2010 on plant protection lays down the requirements with regard to training and qualification of operators, involved in distribution, transport, storage and use of PPPs. Operators must hold a certificate of competence, depending on the activities they are involved in, as well as the category of PPPs to be handled. As part of the authorisation process, PPPs are classified into the following three groups: Category I PPPs are the most demanding in terms of qualification required for more hazardous products, Category II PPP other professional products not falling in the previous category, and PPPs for non-professional use are classified as Category III.

10. Purchase and use of a Category I PPPs must be prescribed and supervised by an expert registered as member of the Chamber. It is required that a contract binds the expert with the professional user for the whole growing season. The expert must hold a higher degree of qualification in the area of plant protection, meeting one of the following three criteria:
   a) a university degree in plant health, agricultural engineering, environmental management or garden engineering, where the education comprises at least 600 hours related to PPPs and it finishes with a final exam;
   b) a university degree as agricultural engineer, nursery engineer, biologist, forest engineer, including university graduates in other areas of natural science, and where they had completed a minimum of 24 weeks of consultations with a qualified plant health expert, or the qualification includes a diploma as a certified plant protection professional engineer, meeting the requirements listed under point a) above;
   c) a qualification recognised by the Minister responsible for food chain supervision as equivalent to the qualifications referred to in points a) and b) above.

11. Marketing, purchase and use of a category II PPP is allowed for:
   a) operators qualified as plant protection, horticulture or soil management technicians;
   b) workers qualified and trained in plant protection and storage of toxic substances/products;
   c) operators who have passed an exam in plant protection subject in a university or college course;
   d) individuals who have finished at least primary school, are at least 18 years old and have successfully passed an exam after having attending an 80-hour "Basic plant protection course". The syllabus of this basic training is approved by the MoA.
12. Certificate holders for category II PPPs are allowed to carry out any activity, where category II and category III PPPs are involved and, under the supervision and responsibility of a plant health expert, to take part in any activity, where category I PPPs are involved. Distributors shall provide a category I PPP only to a qualified plant health expert, or to a certified user holding a prescription, issued by a plant health expert.

13. All certified operators are required to attend additional training to renew their certificates every five years. Operators certified for the marketing and use of category II PPP must attend an 8-hour training course. Operators holding certificates for the marketing and use of category I PPPs must attend a 40-hour training course. The content of the training is approved by the MoA. The Chamber is the designated body to provide trainings to distributors, retailers and users. The training courses are provided in co-operation with the Plant Protection and Soil Conservation Units (PPSCU) of the CGO. The CGO-PPSCUs are responsible for issuing the certificates of competence, as well as for withdrawal of certificates, where conditions laid down in national legislation are not met anymore.

14. In addition to the training requirements described above, pilots involved in aerial spraying are required to undergo specific training every five years. In accordance with Decree 44/2005 on aerial spraying in agriculture and forestry, the Association of Hungarian Agricultural Aviation is the designated body in charge of organising these training courses.

15. According to CA data, a total of 40,548 operators attended initial and additional training in the period from 2014 to 2016. However, the CA did not provide information on the total number of operators with a valid certificate. The CAs were not able to provide definitive figures on the total number of operators, for whom training and certification is a legal obligation. Instead, the following estimated figures were provided:
   - The number of applicants for cross-compliance payments under the Common Agricultural Policy (CAP) reached 176 000 growers in 2017. No information was available on the number of operators not claiming subsidies or involved in non-agricultural use of PPPs. This figure shows a significant gap relative to the number of certified operators. The CA stated that it is a normal practice to hire service providers for treatments and this explains that official controls showed a low ratio of non-compliance related to this requirement.
   - According to data provided by the Chamber, the number of registered and qualified plant health experts was 4 300 at the time of the audit.

16. The CGO provided information on the outcome of official controls carried out at pesticide users, retailers and wholesalers, where issues related to training and certification were covered within the scope of the inspection. The data showed that the rate of non-compliance related to training issues in 2016 and 2017 was lower than 2.3 %. Official controls do not cover growers not applying for subsidies under the single payment scheme or non-agricultural operators.
4.3. INFORMATION AND AWARENESS-RAISING

Legal Requirements

Article 7 of Directive 2009/128/EC on information and awareness-raising

Article 10 of Directive 2009/128/EC on information to the public

Findings

19. Objectives and indicators set in the NAP included both chronic and acute poisoning as elements to be improved or monitored, and also to be included in the campaigns for information and awareness-raising on the sustainable use of PPPs. Several campaigns or actions have been taken in this regard, including information on official websites, or leaflets both at central and regional level, as well as information in this regard covered during mandatory training for users of PPP. The majority of these actions were addressed to operators involved in the use or handling of PPPs. However, no evidence was provided to the audit team with regard to campaigns or information intended for the general public.

20. The NAP included the implementation of surveillance programmes for poisoning events, where PPP users and/or the general public were exposed to PPPs. The MHC and, for occupational cases, the Directorate for Occupational Health of the NPHI, share the responsibility for gathering data on poisoning.

21. Within the MHC, the National Toxicology Information Service has established a 24/7 helpline to assist in any cases of acute poisoning and this has set up a dedicated database which gathers information on incidents related to poisoning of any nature in any public hospital all over the country. In this database, all the information of incidences of poisoning is gathered, including poisoning due to PPP, but it does not record any incidences under occupational safety legislation. Occupational poisoning incidents of agricultural workers (excluding self-employed persons) are reported and recorded into the occupation diseases database of the Directorate for Occupational Diseases of NPHI.

Conclusion on training

17. A system is in place for training and certification of PPP operators. Official controls cover these aspects to verify that legal requirements are complied with, which contributes to the reduction of risks associated with PPP related activities, such as PPP marketing, storage, use and transport. However, official controls do not cover non-agricultural operators or growers not applying for subsidies under the single payment scheme.

18. The training and certification system also covers sales of PPPs and official controls are in place to verify compliance with the certification requirements as per Article 6 of the SUD.
22. Data on acute poisoning incidents for the period from 2011 to 2017 was extracted from the above-mentioned database of the MHC, excluding cases of accidents and poisoning during work. According to this information, poisoning incidents caused by pesticides did not exceed 1 % (83-149 cases) of all poisoning cases in that period, and there were between three and ten cases of fatal incidences per year, where most of the poisoning were cases of suicide. According to the detailed information provided for 2016 and 2017, on an annual basis, approximately 20,000 cases were recorded for all types of poisoning incidences, of which only 0.57 % in 2016 and 0.28 % in 2017 were related to PPPs. For 2016, there were 143 incidents recorded involving pesticides, including 41 suicide attempts and 16 cases involving children. For 2017, the number of incidents decreased to 61, including 27 suicide attempts and 14 cases with children.

In 2016 and 2017, approximately 600 emergency calls were related to poisonings and symptoms associated to PPPs. Beyond that, the National Toxicological Information Service also receives calls concerning the use of PPPs such as application rates, interpretation of label claims and other related information, cases of spray drift, as well as authorisation withdrawal deadlines, expiry dates, and pre-harvest intervals.

23. By the joint decree No 25/2000 of the Ministers of Health and of Social and Family affairs on the chemical safety at workplaces, the employers must provide that their workers exposed to organophosphorus esters are subject to monitoring. In the period 2010-2017, excessive exposures have been reported only in one occasion. The Occupational Health Directorate of NPHI provided information on chronic poisoning developments recorded since 2010. In 2014, one case of skin cancer was reported as a chronic disease due to PPP use.

24. As regards chronic poisoning developments, although one case was reported by the Directorate for Occupational Diseases, the CAs stated that there is no system in place to gather such information, which is not in line with the requirement of Article 7(2) of SUD. The CA highlighted the difficulties to establish a causal link for a chronic disease to a particular agent.

Conclusions on awareness-raising and information

25. Due to the lack of awareness-raising campaigns or other related actions, it is more difficult for the general public to get access to balanced and reliable information on pesticides and risks, arising thereof for human health and the environment.

26. There are systems in place to gather information on pesticide poisoning, however these are related to acute incidents and do not fully cover chronic developments. The lack of information on chronic developments reduces the capacity to introduce appropriate measures in order to protect users exposed to the risks associated to PPPs.
4.4. PEESTICIDE APPLICATION EQUIPMENT

Legal Requirements

Article 8 of Directive 2009/128/EC on PAE inspection

Findings

27. In 2010, the MoA adopted Decree 43/2010, which lays down the requirements for the inspection of PAE units. However, this Decree was amended in 2016, repealing the designation of inspection bodies and the requirements for the technical and testing parameters for inspection. The MoA stated that currently there is no legal obligation for PAE units to be subject to inspection, therefore, PAE in use older than five years is not required to have successfully passed inspection, which is not in line with Article 8 of the SUD. The CAs stated that a draft Decree on inspection of PAE was in the process to adoption at the time of the audit.

28. Under the requirements of Decree 43/2010, the Chamber worked on setting up a network of mobile stations for PAE inspection. The Gödöllő Institute for Agricultural Engineering under the National Agricultural Research and Innovation Centre was the CA responsible for approving the inspection stations. Although the initial plan was to have 24 operative stations to cover the country as a whole, a total of 14 stations have been approved since 2014 for a range of different types of PAE. The scope of some stations includes aerial spraying and spraying trains. The stations are managed by private companies who are entitled to conduct other activities such as repair works. All stations must use specific IT software, developed by the Chamber, in order to report the outcome of the inspections. The Chamber is responsible for issuing the inspection certificates, based on inspection results. One station was visited during the audit, and the testing equipment was state-of-the-art.

29. Representatives of the Chamber stated that 2 000 PAE units were inspected in 2017. However, in the absence of national legal requirements, inspection of PAE units is only performed on a voluntary basis and, at the time of the audit, inspections had been requested for only two PAE units since the beginning of 2018. The CAs estimated that there were 45 000 PAE units which should be subject to regular inspection.

Conclusion on PAE

30. Although actions have been taken to establish a system for PAE inspection, there is no legal obligation for PAE to be subject to inspection. Therefore, Hungary has failed to transpose the requirements of Article 8 of the SUD, as required by Article 23 of the SUD.
4.5. AERIAL SPRAYING

Legal Requirements

Article 9 of Directive 2009/128/EC on aerial spraying

Findings

31. Article 9 (1) of the SUD requires MSs to ensure that aerial spraying is prohibited and, to only allow aerial spraying by way of derogation, in special cases provided that specific conditions set out in Article 9 (2) of the SUD are met. The CAs stated that the SUD requirements on aerial spraying had been transposed into national legislation by Decree 44/2005, as amended in 2012 and 2013 in order to establish the procedure for authorising aerial spraying. Although this Decree does not explicitly prohibit aerial spraying, the CA stated that all aerial spraying is prohibited, which is not done according to this Decree. Aerial spraying approval can only be granted in Hungary when certain conditions are met (see paragraph 35), which, in the views of the CA, fulfils the objective of the SUD.

32. The CAs provided information on aerial spraying for the last three years (Chart 1). This information relates to the area for which derogations have been granted. However, the CAs could not provide information on the area actually treated, due to the fact that applicants are not required to provide further up-to-date information in this regard.

33. Crops where aerial spraying has been carried out in the period 2015-2017, is shown in Chart 2.
34. Chart 2 shows the most relevant crops in terms of area treated. However, the list of crops, for which derogations had been granted in the last three years, include also alfalfa, apricot, barley, durum wheat, elder, melon, oat, oil radish, mustard, pepper, poplar, potato, soya beans, sugar beet, cherry, triticale, vetch, vine and walnut. As shown in Chart 2, sunflower is the crop, with by far most aerial spraying treatments in the period. In all cases, sunflower treatments are carried out under certain conditions for the purposes of desiccation prior to harvesting. The CAs stated that this is not necessary for all the area dedicated to this crop, and for example, in one of the regions visited, in 2017 the area dedicated to sunflower reached 70 000 ha, however the plans for aerial spraying covered only 4 000 ha. The CAs highlighted that the varieties grown, which are driven by the market, are normally higher than 1.6 meters, which means that land-based treatment is not suitable when desiccation is needed.

35. Decree 44/2005 sets out the conditions where aerial spraying is justified, and these include the following:

- In the case of topographical situations where the land-based treatment is impossible. However, a minimum slope has not been established for this case;
- a lower application rate is applicable in the case of aerial spraying thus having less impact on the environment than land-base treatments;
- where a large area has to be treated in a short period of time to control a pest/disease;
- in the case of cereal production, where as a consequence of rainfall, the risk of infestation by fungal diseases is high (e.g. *Fusarium*);
- in the case of high water content of the soil, where land-based treatment would lead to a deterioration of the soil structure;
- where the area to be treated is in a location that is difficult to reach;
- due to the height of the crop, where a land-based treatment cannot be carried out (e.g. sunflower, forest, walnuts);
- in a situation resulting from unforeseeable weather conditions which make it impossible to apply PPPs using land-based equipment (e.g. in the spring following the winter weed control).

36. Decree 44/2005 also sets out the procedure for submission and assessment of applications for aerial spraying. There are two types of applications, namely planned aerial spraying, or an *ad-hoc* accelerated procedure for emergency situations. For planned aerial spraying, applications shall be submitted to the regional CA at least 30 days prior to the expected time of treatment, and in case permit has been granted, a notification to the CA shall be submitted by 09:00 on the day before the aerial spraying takes place. For *ad-hoc* applications, these should be submitted to the CA by 09:00 on the day before the treatment. However, aerial spraying can only take place after a positive decision, which is communicated to the applicant.

37. The information to be provided to the CA is the same for both types of applications and this includes the plot identification, the crop, the area, the plant health expert identification, the expected day for aerial spraying, the justification and the PPP to be
used. Only PPPs authorised for aerial spraying in Hungary may be used for this type of treatments. At the time of the audit, there were 78 PPPs authorised for aerial spraying in Hungary.

38. When an application for aerial spraying is submitted, some additional information may also be provided, such as the identification of the company carrying out the treatment, the aircraft and pilot identification. It is required that 50% drift reduction nozzles are used. However, there are no specific requirements with regard to the type of devices, which the aircraft should be equipped with, in order to ensure an accurate application, such as GPS or differential GPS, or automatic cutting spraying accessories that constitute the best technology available. This is not in line with Article 9(2)(f) of the SUD.

39. Decree 44/2005 requires that aircraft has a permit from the air navigation authorities, the approval from the Institute of Engineering and Agriculture of Nyiregyhaza and pilots must have successfully passed a specific training for carrying out agricultural activities. In order to minimise drift, the Decree requires using low-drift nozzles (50% of the drops with diameter longer than 200µm), but it does not set further requirements on other devices that are considered as best available technology to reduce spray drift (see paragraph 38). Since there is no legal requirement for PAE older than five years to be inspected (see paragraph 27), the aerial spraying approval procedure does not require that equipment units have successfully passed a test.

40. In general, a buffer distance of at least 100 metres must be maintained from the area treated to inhabited areas or the boundary to any nature protected area. The distance must be increased to 300 metres if wind blows towards those areas. However, there is no specific requirement for risk management measures such as for example, the use of signposts on public roads to prevent entry to areas treated, which is not in line with Article 9(2)(e) of the SUD which aims to ensure that there are no adverse effects on the health of bystanders. Although the CA stated that it is a common practice for operators to inform local municipalities about aerial spraying, this is not required by legal provisions or as a condition for approval.

41. One single application may include different plots, and crops, and different growers. Once the application has been submitted, the CA performs an assessment to verify the correctness of the information provided prior to the treatment, including the justification. At that point, a decision is signed by the Head of the PPSSU at district level. A copy of the decision is sent to the applicant, stating the conditions to be met. The decision must clearly specify the plot or plots, for which the aerial spraying has been authorised. There is no requirement for the operator to provide the CA with actual records of the treatment, therefore the CA could not provide precise information on the area actually treated.

42. Two Counties were visited by the audit team, where examples of aerial spraying applications were reviewed. All applications submitted had been approved, although in some cases applications for treatments in some plots were not approved, mainly due to the size of the plot being smaller than the minimum area required, as defined in the process of PPP authorisation. Growers met during the audit, who have made use of aerial
spraying, indicated that the price for outsourcing PPP treatments is very similar for land-based and for aerial spraying treatments.

43. Although prior notifications are required for planned applications shortly before the treatment, such notifications and their preceding applications do not provide evidence of compliance with the conditions to justify the treatment as required by Article 9(2)(a) of the SUD, such as the presence of pests/diseases, rainfall records, etc. This specific information is not requested in the case of emergency ad-hoc approvals either. In the majority of cases, the approval is based on the local knowledge of the official, assessing the application, which means that, in practice, the CA and not the applicant, bears the burden of the proofing to ensure that the treatment is justified and there are no other viable alternatives.

44. There is a system in place to conduct on-the-spot inspections to verify if the conditions of the approval have been met. Such inspections take place for approximately 10% of the applications. These official controls are unannounced and these verify the following aspects:

- training of operators involved (pilot, plant health expert, observers, staff preparing the working solutions);
- a clear mapping of the plots to be sprayed, including buffer zones, which must be available to the pilot;
- invoice for purchase of PPPs, application rates and any crop specific requirements;
- legal status of the aircraft and its technical status (fit for flying), including absence of leakages of the spraying devices and the tank. The type of nozzles used are not checked to ensure that they are low-drift;
- on-the-spot visit to the treated area to check if buffer zones have been respected, including any indication of spray drift; it was stated by the CAs in one of the counties visited that, in the case of herbicide application by means of aerial spraying, an additional on-the-spot visit is conducted two or three weeks after the treatment, in order to verify that adjacent crops or plants outside the demarcated area have not been affected. However, this monitoring practice is not effective to ensure that buffer zones are respected for PPPs others than herbicides. This, together with the fact that there is no specific requirement to maintain accurate records of the area actually treated, is a constraint for post-treatment monitoring activities to verify that treatments performed met the conditions set out in the approval process.

45. The CAs of both counties visited stated that no deficiencies were found during on-the-spot inspections in the last years.

Conclusions on aerial spraying

46. Although PPP users are required to comply with some specific conditions for aerial spraying, these conditions do not match all the conditions for derogation set out in Article 9 of the SUD.
47. While a system is in place for granting authorisations under certain conditions, weaknesses were identified with regard to the level of detail in the justification provided by applicants. Moreover, the system does not require aircraft to be equipped with the best available technology allowing for better control of spraying and for minimising the spray drift, so that to ensure reduction of risks for human health and the environment. Also, there are no mandatory risk management measures for warning residents and bystanders in due time as required by Article 9(2)(e) of the SUD.

48. In the absence of a legal obligation for PAE to be inspected, aerial spraying equipment is not required to have successfully passed an inspection, which undermines the objective of SUD to minimise the adverse impacts of pesticides on human health and the environment caused by such equipment.

49. The lack of requirement for maintenance of accurate records of the area actually treated is a constraint for the CAs to verify that the conditions set in the derogation granted have been met, which hinders the effectiveness of official controls and does not allow for drawing conclusions on the tendency throughout the years.

4.6. WATER PROTECTION

Legal Requirements

Article 11 of Directive 2009/128/EC on specific measures to protect the aquatic environment and drinking water

Findings

50. The Ministry of the Interior is the CA responsible for the protection of water bodies, among them also those used for drinking water purposes. The CA stated that 95% of drinking water is from abstraction from ground waters. The legislative framework includes both monitoring and measures to minimise the risks associated with certain contaminants, including pesticides. Restrictions are in place on pesticide use and storage in areas close to abstraction sites or reservoirs for drinking water, and protection zones have been established around and in the recharge zone of these areas. The CA stated that the monitoring plan has been designed in line with the Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for Community action in the field of water policy, Directive 2008/105/EC of the European Parliament and of the Council on the environmental quality standards for waters, and the Directive 2006/118/EC of the European Parliament and of the Council on the protection of groundwater against pollution and deterioration.

51. The monitoring plan in place covers a six-year period (2014-2019), and for surface waters, it includes the following priority substances: alachlor, atrazine, chlorfenvinphos, chlorpyrifos (chlorpyrifos-ethyl), diuron, endosulfan, hexachlorobenzene, hexachlorocyclohexane, pentachlorophenol, simazine, trifluralin, dicofol, aclonifen, bifenoxy, cybutryne, dichlorvos, heptachlor and heptachlor epoxide, terbutryn, DDT and
isoproturon. Of these, only four substances are approved at EU level (*chlorpyrifos*, *diuron*, *aclonifen* and *bifenox*), and *aclonifen* is the only one classified as candidate for substitution.

52. For surface waters, 120 monitoring sites have been established covering 90 different water bodies. There were 1583 samples taken of surface water in 2016, with 290 pesticide detections. The CA stated that 90 % of detected pesticides/metabolites were *atrazine*, *lindane* and *isoproturon*. These active substances are not approved in the EU, and there are no PPPs containing these active substances authorised in Hungary. These are very persistent substances and findings are not linked to current use, but to the past.

53. For ground waters, two different programmes are in place covering 185 ground water bodies. The surveillance monitoring programme covers 2 000 monitoring sites, and pesticides are measured at least once every six years at each monitoring site. The second programme is focusing on groundwater bodies at risk or with poor status due to different causes, *inter alia*, pesticide issues, and 30 monitoring sites have been established where pesticide analyses are performed once a year. There were 99 samples taken of groundwater in 2016, with 7 detections of pesticides, and 464 samples analysed in 2015 for 450 different sub-parameters, of which, 114 showed presences of pesticides. The main findings related to active substances of the *triazines* family, which are herbicides and some of which have high persistence in the soil (e.g. simazine or atrazine which are no longer approved in the EU, but were widely used in the past).

54. Water Safety Plans were introduced stepwise, starting with the largest drinking water suppliers in 2009. By 2017 all public supplies were required to develop such a plan covering the entire supply chain from source to tap. Implementation of Water Safety Plans is audited in a dual system by the NPHI and the local public health authorities. Operators are required to analyse drinking water according to the frequency laid down in Annex II of Government Decree 201/2001 (X. 25). Additional inspections are carried out by the public health authorities (about 10 %). All data examined is reported to an online database every three months. Results of the self-examination are validated by the local public health authorities. Validated data is transmitted to the national drinking water database, operated by the NPHI. Information on water quality is available to the public on the website of the NPHI as a searchable map.

55. According to Government Decree 201/2001 (X. 25.) the following active substances were sought in the period 2015-2017: *atrazine*, 2,4 *D dichlorophenoxyacetic acid*, *acetochlor*, *diazinone*, *MCPA*, *metolachlor*, *prometryn*, *propachlor*, *terbutrine*, *trifluraline*, *propisochlor*, *endosulfan*. The analytical scope could be extended to cover other substances of concern, based on a decision of the local authorities or GCOs. The CAs stated that all analyses showed full compliance with pesticide thresholds.

56. There are legal provisions in place specifying specific measures to protect the aquatic environment from the use of PPPs. Examples of such measures are:

- storage of PPPs is prohibited within one kilometre of lakes or bathing waters, or of natural areas with some derogations (quantities below 25 Kg);
- storage of PPP in a location where groundwater level is not reaching at any time of the year the storage level;
- rainwater is not diverted to the storage room;
- for aerial spraying, a protective distance of at least 100 metres must be observed to nature protected areas or water bodies, and it requires the use of low-drift nozzles.
- for land-based treatments, a minimum of five meters buffer zone to water courses must be respected, or if applicable, a longer distance specified on the label of the PPP, approved as part of the authorisation process of the PPP.

**Conclusions on water protection**

57. While there are monitoring programmes in place for verifying the quality of surface and ground waters, which include priority substances relevant to the provisions of the Directive 2000/60/EC, the majority of active substances included in the analytical scope are not currently approved at EU level under the Regulation (EC) No 1107/2009. Therefore, the monitoring system does not fully address the requirement in Article 11 of SUD on the sustainable use of pesticide due to the low number of approved active substances, which are currently being monitored.

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**4.7. INTEGRATED PEST MANAGEMENT**

**Legal Requirements**


**Findings**

58. The promotion of IPM is one of the main objectives of the NAP, which includes a measure to introduce two-tiered integrated crop production schemes, namely mandatory IPM and a voluntary certification scheme called Integrated Production. For this second scheme, the CA stated that a decree had been drafted, however, it had not been adopted at the time of the audit. Another measure of the NAP aimed for promotion of organic farming and for increasing the number of certified organic producers. According to the statistical office of the EU (Eurostat), the area in Hungary dedicated to organic production increased by 30% in the period 2012 to 2016 (from 130 000 ha in 2012 to 186 000 ha in 2016), the percentage of UAA dedicated to organic farming was below 3.5 %, which means that Hungary is the 21st MS in percentage terms of land area dedicated to organic production in the EU.

59. Decree 43/2010 introduced an obligation for growers to implement IPM principles. This Decree also requires that category I PPPs can be used only based on a prescription by a qualified plant health expert registered with the Chamber. Advisory services are based on a contract between PPP professional users and a plant health expert, valid for at least one growing season. Training on IPM is included both in Universities (for qualified plant
health expert) and in the mandatory on-going training for advisors to be followed every five years.

60. At the time of the audit, there were 40 formally approved IPM guidelines, which covered more than 90% of the total UAA. Professional users are required to keep records on PPP treatments by the Regulation (EC) No 1107/2009. However, there is no requirement to keep records on pest monitoring, with the exception of growers applying for agro-environmental subsidies. Pest monitoring is one of the eight general IPM principles, which is a key element for decision-making with regard to pest control activities.

61. Further specific IPM actions are undertaken by different bodies, for example the establishment of monitoring systems for pest/diseases and early warning systems. The National Agricultural Chamber has a system in place for pest monitoring and forecasting, covering 46 different crops and information is published on http://novenyvedelem.nak.hu/. The number of visits to this website reached 10,000 in 2017, when more than 40,000 forecast messages were issued. One of the farms visited during the audit was also making use of private forecasting systems and of further information provided by official research institutes.

62. For those growers, applying for subsidies under the agro-environmental measures under the CAP, official controls cover the assessment of the implementation of the eight IPM principles (Annex III of the SUD). The CA stated that there are 12,000 growers claiming payments for agro-environmental measures, which represents 6.8% of cross-compliance applicants. The CA conducts official controls at 5% of the growers receiving agro-environmental payments on an annual basis. These official controls are conducted by staff from CGO-PPSCUs. The CAs stated that there are no controls to verify the implementation of the eight principles of IPM to users of PPPs not receiving subsidies under the agro-environmental measures scheme.

63. The audit team observed one inspection at a farm growing grapes. The inspection included the verification of the applicable IPM principles. Treatment records were thoroughly checked of PPP application records, which were cross-checked against the pest and disease monitoring records, and forecast information received from different sources. This procedure allows for assessing the decision-making process and, in particular, the justification of PPP use. For annual crops, suitability of crop rotation is assessed for the first principle of IPM on prevention measures, and a guide with acceptable rotations have been issued for the inspectors to assess this aspect.

Conclusions on IPM

64. Although there is a significant delay in the implementation of the NAP measure to establish the certification scheme for Integrated Production, there are some measures in place to promote and to encourage implementation of IPM principles at farm level, which contribute positively towards reduction of the dependency on PPP use.

65. Although a system has been developed to assess the implementation of IPM principles, these official controls cover only a small percentage of PPP professional users, and therefore cannot provide assurance that the eight IPM principles are implemented by all
5. **OVERALL CONCLUSION**

Hungary has taken action with the objective of implementing the requirements of Directive 2009/128/EC. Several weaknesses, identified by DG Health and Food Safety in the assessment of Member State National Action Plans and in the Hungarian response to a questionnaire, have either been addressed or satisfactory clarifications were provided.

The first National Action Plan (NAP), covering the period 2013-2017, lacks overall quantitative objectives and quantifiable targets for the reduction of risks and impacts of pesticide use, which does not satisfy the requirements of the Directive. This makes it impossible to demonstrate progress towards meeting the objectives of the Directive. In addition, the NAP had not been reviewed within a five year period, as required by the Directive.

There are important areas, where further action is needed to meet requirements of the Directive. In particular, this applies to aerial spraying and to inspection of pesticide application equipment.

Although a system has been established to assess the implementation of Integrated Pest Management principles, these official controls cover only a small percentage of plant protection products used by professional users.

6. **CLOSING MEETING**

A closing meeting was held in Budapest on 14 March 2018 with representatives of MoA, MHC, Ministry of Interior, NFCSO, the Hungarian State Treasury and County Government Offices (CGO) of Bekes, Veszprem and Tolna. At this meeting, the audit team presented the findings and preliminary conclusions of the audit and CAs provided initial comments on these findings and conclusions.
7. **RECOMMENDATIONS**

The CAs are invited to provide details of the actions taken and planned, including deadlines for their completion ('action plan'), aimed at addressing the recommendations set out below, within twenty-five working days of receipt of this audit report. The CA should:

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<th>No.</th>
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| 1.  | Ensure that the NAP is reviewed to set quantitative objectives as per Article 4(1) of the SUD to reduce risks and impacts of pesticide use on human health and the environment.  
*Conclusions upon which this recommendation is based:* 7  
*Associated findings upon which this recommendation is based:* 5 |
| 2.  | Ensure that actions are taken to inform the general public, to promote and facilitate information and awareness-raising programmes and to provide accurate and balanced information relating to pesticides to the general public, as required by Article 7(1) of SUD.  
*Conclusions upon which this recommendation is based:* 25  
*Associated findings upon which this recommendation is based:* 19 |
| 3.  | Ensure that systems are in place for gathering information on pesticide chronic poisoning developments, as required by Article 7(2) of SUD.  
*Conclusions upon which this recommendation is based:* 26  
*Associated findings upon which this recommendation is based:* 24 |
| 4.  | Bring into force the laws, regulations and administrative provisions necessary to ensure that pesticide application equipment in professional use is subject to inspection at regular intervals in accordance with Article 8(1) and (2) of SUD.  
*Conclusions upon which this recommendation is based:* 30  
*Associated findings upon which this recommendation is based:* 27 |
| 5.  | Ensure that actions are taken to improve the system in place for granting authorisations of aerial spraying, including:  
  a) Mandatory risk management measures for warning residents and bystanders in due time (Article 9(2)(e) of the SUD).  
  b) Requirements for aircrafts to be fitted with the best available technology to minimise the risk of drift (Article 9(2)(f) of the SUD).  
*Conclusions upon which this recommendation is based:* 46, 47  
*Associated findings upon which this recommendation is based:* 31, 38, 40 |
| 6.  | Ensure that implementation of the eight IPM principles is subject to official controls at all PPP professional users, as per Article 14(4) of SUD, in conjunction with 55 of Regulation (EC) No 1107/2009.  
*Conclusions upon which this recommendation is based:* 65  
*Associated findings upon which this recommendation is based:* 62 |

The competent authority's response to the recommendations can be found at:

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<th>Legal Reference</th>
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