Province of Burgenland | Province of Carinthia | Lower Austria | Upper Austria | Province of Salzburg

National Action Plan on the Sustainable Use of Plant Protection Products

Austria 2022 – 2026

Province of Styria | Province of Tyrol | Vorarlberg | City of Vienna; | Federal Ministry of Agriculture, Regions and Tourism

Legal notice

Copyright notice and liability:

Media owner and publisher:

Office of the Provincial Government of Burgenland, Europaplatz 1, 7000 Eisenstadt

Office of the Provincial Government of Carinthia, Arnulfplatz 1, 9020 Klagenfurt am Wörthersee

Office of the Provincial Government of Lower Austria, Landhausplatz 1, 3109 St. Pölten

Office of the Provincial Government of Upper Austria, Landhausplatz 1, 4021 Linz

Office of the Provincial Government of Salzburg, Chiemseehof, 5010 Salzburg

Office of the Provincial Government of Styria, Hofgasse 15, 8010 Graz

Office of the Provincial Government of Tyrol, Eduard-Wallnöfer-Platz 3, 6020 Innsbruck

Office of the Provincial Government of Vorarlberg, Römerstraße 15, 6901 Bregenz

Vienna City Council, Wiener Stadtgärten, Johannesgasse 35, 1030 Vienna

Federal Ministry of Agriculture, Regions and Tourism, Stubenring 1, 1010 Vienna

The National Action Plan has been coordinated by the Federal Ministry of Agriculture, Regions and Tourism (BMLRT) and joint representatives of the provinces. The expert input emerged from working group meetings involving the federal authorities, the provinces, statutory interest groups and other stakeholders.

Applies to printed version: Don't delete this field!
This field serves as a placeholder for the original versions of eco-labels, ecolabel text and PEFC labels. This placeholder shows their status and will be replaced by the printshop with the corresponding original elements.
Applies to the online version: Please delete this field!

PEFC™
PEFC/06-39-364/27

PEFC recycelt

This product comes from recycling and controlled sources.

www.pefc.at

Vienna, 2021.

Table of contents

Legal notice **2**

Table of contents **3**

List of abbreviations 5

Introduction 6

Project workflow 6

1. Education and training **9**

1.1. General 9

1.2. Education and training for professional users, distributors and advisors 9

1.2.1. Background 9

1.3. Quantitative objectives, targets and timetables 10

1.4. Measures 11

2. Information and awareness-raising **12**

2.1. Background 12

2.1.1. Information and awareness-raising for the public and non-professional users 12

2.2. Information and awareness-raising for professional users, distributors and advisors 13

2.3. Quantitative objectives, targets and timetables 13

2.4. Measures 14

3. Inspection of plant protection equipment **15**

3.1. Background 15

3.2. Quantitative objectives, targets and timetables 16

3.3. Measures 16

4. Measures to protect the aquatic environment and drinking water **19**

4.1. Background 19

4.1.1. Water status 19

4.1.2. Monitoring 20

4.1.3. Existing rules, support programmes and advice 21

4.2. Quantitative objectives, targets and timetables 22

4.3. Measures 23

5. Reducing the risks and the quantities of plant protection products used **26**

5.1. Background 26

5.1.1. Authorisation of plant protection products 26

5.1.2. Use of plant protection products, plant protection equipment 26

5.1.3. Alert service 27

5.1.4. The ÖPUL agri-environmental programme 28

5.1.5. Initiatives aimed at reducing risks and quantitative use of plant protection products 29
5.1.6. Specific areas 29
5.2. Quantitative objectives, targets and timetables 31
5.3. Measures 31

6. Use of plant protection products and cleaning of plant protection equipment . 33

6.1. General 33
6.2. Background 33
6.2.1. Plant protection product use 33
6.2.2. Different types of plant protection product authorisation 33
6.2.3. Plant protection products for professional users and other users 34
6.2.4. Province-specific rules on use 34
6.2.5. Aerial spraying 35
6.2.6. Conditions of use 35
6.2.7. Storage and disposal 35
6.2.8. Plant protection equipment 35
6.2.9. Controls on the use of plant protection products 36
6.3. Quantitative objectives, targets and timetables 36
6.4. Measures 36

7. Further development of integrated pest management 38

7.1. Background 38
7.1.1. Principles of Integrated Pest Management 39
7.1.2. Organic production 39
7.1.3. Alert service 40
7.1.4. Crop/sector-specific guidelines 40
7.1.5. Education and training 42
7.1.6. The ÖPUL agri-environmental programme 43
7.1.7. 'Future crop production' strategy process 44
7.1.8. Research 44
7.1.9. Official controls on professional users 45
7.2. Quantitative objectives, targets and timetables 45
7.3. Measures 46

8. Risk indicators 50

8.1. Background 50
8.1.1. Harmonised risk indicators 50
8.1.2. Plant protection products containing low-risk active substances 53
8.1.3. Candidates for substitution 53
8.2. Quantitative objectives, targets and timetables 53
8.3. Measures 54
8.4. General indicators 55

List of abbreviations

AGES	*Österreichische Agentur für Ernährungssicherheit* [Austrian Agency for Health and Food Safety]
AMA	*Agrarmarkt Austria* [Austrian agricultural market regulation body]
AUVA	*Allgemeine Unfallversicherungsanstalt* [General Accident Insurance Institution]
BAES	*Bundesamt für Ernährungssicherheit* [Federal Office for Food Safety]
BGBl.	*Bundesgesetzblatt* [Federal Law Gazette]
BLT	*Bundesanstalt für Landtechnik* [Federal Institute for Agricultural Engineering]
BMASGK	*Bundesministerium für Arbeit, Soziales, Gesundheit und Konsumentenschutz* [Federal Ministry of Labour, Social Affairs, Health and Consumer Protection]
BMLRT	*Bundesministerium für Landwirtschaft, Regionen und Tourismus* [Federal Ministry of Agriculture, Regions and Tourism]
BMSGPK	*Bundesministerium für Soziales, Gesundheit, Pflege und Konsumentenschutz* [Federal Ministry of Social Affairs, Health, Care and Consumer Protection]
EIP	European Innovation Partnership
EN	European Standard
EEA	European Economic Area
CAP	Common Agricultural Policy
GW	Groundwater
GZÜV	*Gewässerzustandsüberwachungsverordnung* [Water Status Monitoring Regulation]
IACS	Integrated Administration and Control System
ISO	International Organisation for Standardisation
LGBl.	*Landesgesetzblatt* [Provincial Law Gazette]
LK	*Landwirtschaftskammer(n)* [Chamber(s) of Agriculture]
NGP	*Nationaler Gewässerbewirtschaftungsplan* [National Water Management Plan]
OG	*Oberflächengewässer* [surface water]
ÖAIP	*Österreichische Arbeitsgemeinschaft für Integrierten Pflanzenschutz* [Austrian Association for Integrated Plant Protection]
ÖPUL	*Österreichisches Programm für umweltgerechte Landwirtschaft* [Austrian Programme for Environmentally-friendly Agriculture]
ÖVGW	*Österreichische Vereinigung für das Gas- und Wasserfach* [Austrian Gas and Water Association]
PPP	Plant protection products
QZV	*Qualitätszielverordnung* [Quality targets Regulation]
SVSt	*Sozialversicherungsanstalt der Selbständigen* [Social Insurance Fund for Self-Employed Persons (including farmers)]
TWV	*Trinkwasserverordnung* [Drinking Water Regulation]
UBA	*Umweltbundesamt* [Federal Environment Agency]
UBB	*Umweltgerechte und biodiversitätsfördernde Bewirtschaftung* [Environmentally friendly and biodiversity-promoting farming]
EQS	Environmental Quality Standards
VIZ	*Vergiftungsinformationszentrale* [Poisons Information Centre]
WRG	*Wasserrechtsgesetz* [Water Rights Act]

Introduction

The National Action Plan is based on Directive 2009/128/EC on the sustainable use of pesticides. Under Article 4 of the Directive, Member States are to adopt National Action Plans to set up their quantitative objectives, targets, measures and timetables to reduce risks and impacts of pesticide use on human health and the environment and to encourage the development and introduction of integrated pest management and of alternative approaches or techniques in order to reduce dependency on the use of pesticides.

Under the Austrian Constitution, the Federal Government is responsible for regulating the authorisation and marketing of plant protection products and for legislation on the use of such products in the forestry sector and the enforcement of such legislation. The nine provinces are responsible for regulating the use of plant protection products in all other areas, in particular agriculture.

In drawing up the Action Plan, the individual chapters were compiled jointly by representatives of the Federal Government, the provinces, statutory interest groups and other stakeholders. This ensured the creation of a uniform, country-wide National Action Plan.

Project workflow

The National Action Plan was coordinated by the Federal Ministry of Agriculture, Regions and Tourism (BMLRT) and the joint representatives of the provinces. The individual chapters were reviewed and revised by eight working groups in which representatives of federal services, the provinces, statutory interest groups and stakeholders participated. Technical and scientific coordination, and coordination within the groups, was carried out by the chairs of the working groups.

Working groups:

- Education and training
  Chair: Office of the Styrian Provincial Government, Department 10, Agriculture and Forestry

- Information and awareness-raising
  Chair: Lower Austria Chamber of Agriculture, Plant Production Department

- Inspection of plant protection equipment
  Chair: *Bundesamt für Landtechnik, Prüfung – Traktoren und Landmaschinen* [Federal Office for Agricultural Engineering, Testing – tractors and agricultural machinery]

- Measures to protect the aquatic environment and drinking water
  Chair: Federal Ministry of Agriculture, Regions and Tourism, Division I/2, National and International Water Management

- Reducing the risks and the quantities of plant protection products used
  Chair: Lower Austria Chamber of Agriculture, Plant Production Department

- Use of plant protection products and cleaning of plant protection equipment
  Chair: Office of the Provincial Government of Styria, Department 10, Agriculture and Forestry

- Further development of integrated pest management
  Chair: Federal Ministry of Agriculture, Regions and Tourism, Division II/5, Plant Products

- Risk indicators
  Chair: Austrian Agency for Health and Food Safety, Institute for Plant Protection Products

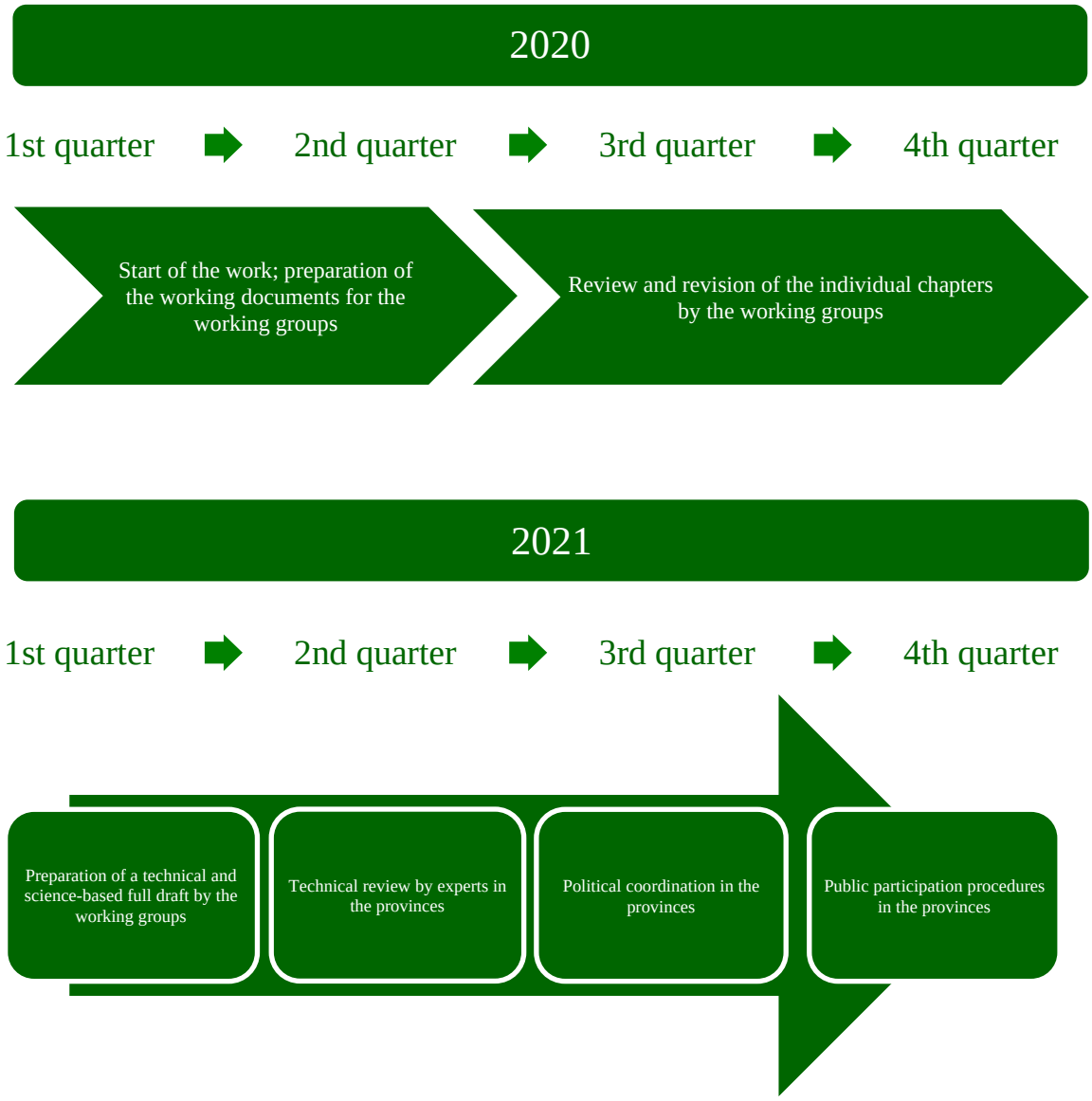
Working documents prepared by the BMLRT, the joint representatives of the provinces and the chairs of the working groups were available for each chapter. These working documents referred to the recommendations, findings and conclusions of the European Commission on the report of an audit carried out in Austria (26 February to 7 March 2019) in order to evaluate the implementation of measures to achieve the sustainable use of pesticides (DG(SANTE) 2019-6721).

Similarly, the working documents provided links to activities at EU level, and to:

- the European Court of Auditors' Special Report 'Sustainable use of plant protection products: limited progress in measuring and reducing risks' (05/2020);
- the Report from the Commission to the European Parliament and the Council on the experience gained by Member States on the implementation of national targets established in their National Action Plans and on progress in the implementation of Directive 2009/128/EC on the sustainable use of pesticides (COM(2020) 204 final);
- the EU 'Farm to Fork' Strategy (COM(2020) 381 final); and
- the EU Biodiversity Strategy for 2030 (COM(2020) 380 final).

The purpose of the review and revision of the National Action Plan was to reflect the recommendations and conclusions of the European Commission and the European Court of Auditors, to address the shortcomings identified during the 2019 audit, and to take account of measures under the EU strategies.

The process outline below shows the steps involved in the project.


2020
1st quarter
2nd quarter
3rd quarter
4th quarter
Start of the work; preparation of the working documents for the working groups
Review and revision of the individual chapters by the working groups
2021
1st quarter
2nd quarter
3rd quarter
4th quarter
Preparation of a technical and science-based full draft by the working groups
Technical review by experts in the provinces
Political coordination in the provinces
Public participation procedures in the provinces

1. Education and training

1.1. General

Plant protection products may be used only as intended and in the proper manner, in accordance with the principles of good plant protection practice and the precautionary principle. Professional users must follow the general principles of integrated pest management set out in Annex III to Directive 2009/128/EC on the sustainable use of pesticides.

Sufficient expertise in the field of plant protection is a basic requirement if plant protection products are to be used as intended and in the proper manner as part of integrated pest management. This is why ongoing education and training is essential to ensure that professional users, distributors and advisors have the expertise necessary.

Plant protection products authorised for professional use may only be sold to persons holding a certificate in accordance with Article 5(2) of Directive 2009/128/EC. Sellers must have appropriate training as distributors.

Under the Austrian Constitution, the Federal Government is responsible for regulating the authorisation and marketing of plant protection products and for legislation on the use of such products in the forestry sector and the enforcement of such legislation. The nine provinces are responsible for regulating the use of plant protection products in all other areas, in particular agriculture. There is legislation at both federal and provincial levels governing the sale and use of, and provision of advice on, plant protection products, including education and training, the related certification system and the procedure for the issue and withdrawal of certificates.

1.2. Education and training for professional users, distributors and advisors

1.2.1. Background

The obligatory training subjects referred to in Annex I to Directive 2009/128/EC regarding the use of plant protection products have been introduced in Austria, taking account of the particular focus of the different regions. The initial training course for professional users and advisors comprises between 8 and 20 teaching modules, depending on their previous training. Taking into account sector-specific and region-specific considerations, additional training comprises at least five teaching modules. Attendance at specialist plant protection product events can to a certain extent count as additional training hours, provided that the content meets the relevant professional requirements.

For distributors, a standard nationwide training system has been established comprising 16 hours of initial training and 8 hours of additional training.

The competent authorities at both federal and provincial levels issue, or extend the validity of, a credit-card sized certificate once the necessary education and training has been completed. This serves as evidence as referred to in Article 5(2) of Directive 2009/128/EC and is mutually recognised in Austria.

The competent authorities are:

- for distributors, the Federal Office for Food Safety
- for professional users and advisors, the provincial governments, district administrative authorities, and chambers of agriculture

Model proof of competence from the Province of Styria (the cards of the other provinces essentially correspond to this model):

Front side:

Reverse side:

Key:

Training certificate pursuant to Article 5 of Directive 2009/128/EC

1.	*Name, Titel*	Surname, title
2.	*Vorname*	First name
3.	*Geburtsdatum*	Date of birth
4a.	*Wohnsitzadresse*	Home address
4b.	*Staat*	Country
5a.	*Ausstellungsdatum*	Date of issue
5b.	*Ablaufdatum*	Date of expiry
6.	*Fortlaufende Nummer*	Serial number
7.	*Unterschrift*	Signature

1.3. Quantitative objectives, targets and timetables

Objectives	Target	Attainment
1. Access to education and training for all professional users, distributors and advisors	100%	annually
2. Access to online training courses for professional users, distributors and advisors	100%	annually
3. List of criteria for the eligibility of relevant specialist events	100%	2025

Objectives	Target	Attainment
4. Current training content in line with scientific and technical advances	50%	every 3 years

1.4. Measures

Re Objectives 1 and 2:

Sufficient training opportunities are to be developed and maintained at all levels and in as many fields as possible, taking into account sector-specific and region-specific particularities and the availability of the relevant courses online. For sectors outside agricultural production in particular (e.g. municipal areas, green space design, etc.), an appropriate training offer should be developed with a special focus on alternative plant protection methods.

Re Objective 3:

In order to ensure a transparent and relatively uniform assessment of relevant training courses, the competent bodies must draw up sets of criteria for the eligibility of these specialist events.

Re Objective 4:

The adaptation of the training content to scientific and technical advances must be carried out as a dynamic process over the current training periods and should always be taken into account in the context of education and training.

2. Information and awareness-raising

2.1. Background

2.1.1. Information and awareness-raising for the public and non-professional users

Various bodies (e.g. BAES, UBA, VIZ, AUVA, SVS, the chambers of agriculture, teaching establishments) produce publications containing comprehensive information for the general public on plant protection products, and in particular on the risks and possible impact of their use on health and on the environment.

As part of the 'Future crop production' strategy, a discussion process is ongoing involving all relevant stakeholders from this field - from agriculture, processing, trade, testing stations, interest groups, NGOs, industry and science. The aim is to arrive at modern solutions for crop production as a whole and ensure the safety of farmers, consumers and the environment.

In a broad consultation process involving a wide range of stakeholders and relevant specialist groups, proposals for measures to address future issues were drawn up. Organisations representing the fields of agriculture, processing, trade, testing, interest groups, non-governmental organisations, industry and academia were represented. The results can be found at Future crop production (ages.at).

Measures included redesigning and modernising the alert service (see point 5.1.3.). Furthermore, crop production was, for example, included as a priority in the BMLRT research programme, and innovation projects on specific pests such as corn rootworm and wireworm were launched. The 'KLIMAFIT' project, which deals with the breeding of drought-resistant and heat-tolerant varieties, was also launched, while work continued on the further development of insurance schemes and the development of a protein strategy.

In order to facilitate an exchange of expertise and opinions on a wide range of issues in the areas of crop production and crop protection, in 2015 a 'Round Table' was set up within AGES which is held several times a year to deal with the latest issues and involves all relevant stakeholders.

Given that expert knowledge is not required by law for the use of plant protection products by non-professional users in homes and private gardens, specific requirements have been laid down for their authorisation and supply in this field. These include in particular the suitability of the products and the nature and size of their packaging. In addition, the purchase of such products is only allowed through trained staff at the point of supply, which has facilitated the provision of relevant advice and information and awareness-raising in the sector. When supplying plant protection products to non-professional users, a leaflet containing important information on safe use is to be handed out. This ensures that non-professional users are provided with sufficient information and raises their awareness about the safe use of plant protection products.

For example:

News – Land Kärnten (ktn.gv.at)

Bestaeuber.Leben._Broschuere_Land_Tirol_2020.pdf

Providing information on the correct use of plant protection products is also important with a view to reducing risk in homes and private gardens. Training and information is available to the general public in all provinces (e.g. www.wien.gv.at, www.oegg.or.at, www.umweltberatung.at, www.garten-bienen.at, www.naturimgarten.at).

2.2. Information and awareness-raising for professional users, distributors and advisors

Austria has implemented the requirements of Directive 2009/128/EC on the sustainable use of pesticides by professional users. Comprehensive advice and training are available for this target group (see Chapter 1). In addition, education and training will be made available specifically for the non-agricultural sector (for example at municipal level, and green space design), with a greater focus on the substitution of active substances in plant protection products. The aim is to minimise potential risks, especially in areas that are not directly involved in production.

Important information relating to plant protection can be found on numerous websites of the Federal Government, the provinces, statutory interest groups, associations and clubs; for example:

www.bmlrt.gv.at

www.baes.gv.at/baes

www.lkoe.at

www.warndienst.at

www.ages.at

www.rebschutzdienst.at

2.3. Quantitative objectives, targets and timetables

Extensive information is already available for professional users, distributors and advisors. Further objectives and measures for these persons are set out in Chapters 1-8. The objectives and measures set out below therefore relate to the public and non-professional users.

Objectives	Target	Attainment
1. Access to a central collection of links to sources of information on plant protection products	100%	2023
2. Increase in the annual number of hits on the central collection of links on the subject of plant protection products	1 500 per month	2024
3. Coordinated exchange of information between stakeholders	2x annually	ongoing

2.4. Measures

Re Objectives 1 and 2:

Objective information on plant protection measures is to be made available to the general public, to resolve the current gaps in information provision. There will be a particular focus on the economic, ecological and social benefits of plant protection and on the risks and possible impact of the use of plant protection products on health and on the environment. A central collection of links to the wide array of information available on the internet, ranging from official sources of information provided by public authorities through to private resources, will therefore be created. Greater mention should be made of this in various channels (e.g. information channels at local level) to promote awareness and hence access.

Re Objective 3:

Constructive exchanges between the different stakeholders will continue to be ensured. Therefore, the 'Round Table' forum will continue to be held on current topics relating to integrated pest management. The results of the process will be made available to the public online, as has been the case up to now.

3. Inspection of plant protection equipment

3.1. Background

The requirements of Directive 2009/128/EC on the inspection of plant protection equipment in use and the introduction of a certification system (for the verification of inspections) have been transposed into Austrian law in the relevant plant protection product legislation of the provinces and the implementing regulations pursuant to that legislation.

The requirements regarding the inspection of plant protection equipment in use were transposed on the basis of Annex II to the Directive. Requirements have been laid down for the accreditation of workshops (inspection stations) that inspect plant protection equipment in use, the design of the inspection sticker and the content of inspection reports.

Sample of an inspection sticker from the province of Lower Austria (the stickers of the other provinces essentially correspond to this sample):

Key:

Überprüftes Pflanzenschutzgerät gemäß RL 2009/128/EG	Inspected plant protection product in accordance with Directive 2009/128/EC
Nächste Überprüfung fällig	Next inspection due
Landescode und Fortlaufender Nr	Province code and serial number
Register-Nr der autorisierten Werkstätte	Registration number of the accredited workshop

The obligation to inspect plant protection equipment covers all types of equipment, including seed treatment machines, applicators and granular spreaders. Only hand-held plant protection devices, equipment that can be carried over the shoulder or on the back and equipment and devices used exclusively to apply beneficial organisms are exempted from the inspection obligation. Such equipment has to be serviced regularly by professional users.

Valid inspection certificates from the various Austrian testing stations, other EU Member States and EEA states are recognised in Austria.

The staff of accredited workshops (inspection stations) are trained by the Mold training workshop and the Verein Fachgruppe Technik e.V. in cooperation with the Federal Institute for Agricultural Engineering (Bundesanstalt für Landtechnik – BLT).

The control criteria for the inspection of plant protection equipment have been laid down uniformly throughout Austria. They cover all equipment types and comply with the relevant ISO 16122 standards, in so far as these are available, and the guidelines of the Julius-Kühn Institute.

In addition to the official inspection of plant protection equipment, the Austrian Association for Integrated Plant Protection (Österreichische Arbeitsgemeinschaft für integrierten Pflanzenschutz – ÖAIP) assesses the plant protection equipment of various manufacturers. When the product types reach the standards developed by experts from ÖAIP members (including the BLT) on the basis of the applicable EN-ISO standards, the equipment may be sold with an ÖAIP quality label. In addition, the plant protection equipment must comply with the *Maß- und Eichgesetz* [Measurement and Calibration Act], BGBl. No 152/1950, as amended by BGBl. I No 72/2017 and its implementing regulations. The relevant requirements are checked during the inspection.

3.2. Quantitative objectives, targets and timetables

Objectives	Target	Attainment
1. Access to accreditation for (further) workshops (inspection stations)	100%	ongoing
2. Inspection (monitoring) of the accredited workshops (inspection stations)	100%	within 5 years
3. Uniform control criteria for the inspection of plant protection equipment according to the latest available up-to-date standard	100%	ongoing
4. Access to information on inspection requirements	100%	annually
5. Access to information on accredited workshops (inspection stations)	100%	annually
6. Access to regular training for inspection staff	100%	annually
7. Monitoring of the requirement that professional users may use only inspected application equipment	1 000 establishments	annually
8. Uniform procedure for inspecting plant protection equipment	3x	annually

3.3. Measures

Re Objective 1:

Access to accreditation for (further) workshops (inspection stations) is guaranteed and supported:

- by establishing or updating the legal bases and implementing provisions;

- by making information available online for workshops interested in becoming an inspection station; in particular as regards
  - the applicable legal requirements;
  - the competent authorities/bodies responsible for accreditation (contact details); and
  - guidance on how to apply, including an application form;
- where necessary, by proactively providing information through the Austrian Federal Economic Chamber (WKÖ) to achieve better local inspection station coverage.

Every non-accredited workshop should be given the opportunity to be accredited if the conditions are met.

Re Objective 2:

Inspection protocols are drawn up and the necessary resources (inspection staff) are made available to monitor the workshops (inspection stations) accredited to inspect plant protection equipment. Monitoring includes compliance with legal requirements, such as the necessary technical equipment and staff. Over a period of 5 years, all workshops (inspection stations) should be checked (about 20 percent per year).

Re Objective 3:

Drawing up a uniform inspection manual for Austria as a whole on the basis of the current provincial inspection manuals, the current version of the EN ISO 16122 standard group and the JKI guidance 3-1.0 Guidelines for the inspection of plant protection equipment in use. The technical expertise for this is provided by a working group composed of representatives of the ÖAIP Working Group on application technology, the BLT, the Mold training workshop, the Verein Fach Technik e.V., the chambers of agriculture, the authorities and equipment manufacturers. A joint representative of the provinces monitors the process of drawing up the inspection manual and its continuous updating and coordinates the making available of the manual as an annex to the plant protection equipment inspection regulations of the individual provinces with the aim of providing a uniform basis for the inspection of plant protection equipment in all provinces.

Re Objectives 4 and 5:

Access to information concerning the requirements for the inspection of plant protection equipment and the accredited workshops (inspection stations) is provided:

- by means of publication in regulations of the authorities
- by means of publication on the websites of authorities, interest groups and private bodies (e.g. workshops offering inspections)
- at specialist events and training
- as part of the discussions of statutory interest groups

Re Objective 6:

The training of the staff of accredited workshops is carried out throughout Austria by the Mold training workshop and the Technical Section of the *Verband Steirischer Erwerbsobstbauern* [Association of Styrian Commercial Fruit Growers] in cooperation with the BLT. During the inspection period, the inspection staff or workshops may make the need for training for inspection staff on the periodic statutory inspection of herbicide and sprayers

known by informing Department 10 of the Province of Styria (abteilung10@stmk.gv.at), for instance, or register directly with the Verein Fach Technik e.V. (fachgruppe@obstwein-technik.eu) and the Mold training workshop (office@mold.lk-noe.at). Once training dates have been set, all officially accredited inspection workshops are notified by email. The information will also be published on the websites of the respective training institutions. Additional dates are offered depending on the registrations. A reminder will be sent by e-mail no later than three days before the relevant training date.

Re Objective 7:

Plant protection equipment in use and used for professional purposes must be checked by officially accredited inspection stations and bear a valid inspection sticker. These requirements are checked on-the-spot during checks on the use of plant protection products both as part of official controls and as part of the ÖPUL environmental programme. The on-the-spot checks are unannounced. The specific sample is selected randomly according to a risk-based sampling plan and as part of follow-up checks on previous infringements found. There is an inspection guide for the inspection. During the inspection, the individual points are verified using a checklist. Plant protection equipment subject to inspection is visually inspected and it is verified whether a valid inspection sticker has been affixed.

Re Objective 8:

In order to ensure a uniform approach to the inspection of plant protection equipment, coordination meetings between the competent authorities and specialised bodies take place at least three times a year. Technical workshops and training courses are also used to coordinate technical subjects in particular.

4. Measures to protect the aquatic environment and drinking water

4.1. Background

4.1.1. Water status

4.1.1.1. *Nationaler Gewässerbewirtschaftungsplan* [National Water Management Plan]

The *Nationaler Gewässerbewirtschaftungsplan* (NGP) [National Water Management Plan] is drawn up every 6 years in implementation of the Water Framework Directive (Directive 2000/60/EC) and includes the water management framework. A draft of the third National Water Management Plan is currently subject to public participation[1], and the final version is expected to be available by the end of 2021.

The NGP collects data on the pollution and environmental status of groundwater and surface waters. In order to achieve the environmental objectives, a programme of measures will be established for the different types of pollution. For plant protection products, existing measures such legislation on plant protection products and water rights, the *Nationaler Aktionsplan Pflanzenschutzmittel* [National Plant Protection Product Action Plan], the Austrian Programme for Environmentally-friendly Agriculture (ÖPUL), and advisory activities, are summarised.

The data in the 2015 NGP[2] showed a marked decline in the groundwater pollution by plant protection products. This primarily concerned active substances that are no longer approved, while there was no discernible trend for approved active substances. In 2013, the year of the initial observation period referred to in the *Gewässerzustandsüberwachungsverordnung* (GZÜV) [Water Status Monitoring Regulation], maximum permitted levels of an approved active substance or relevant metabolite were found to have been exceeded at 72 monitoring sites, corresponding to 3.6% of the monitoring sites examined.

Both the area-based assessment at groundwater body level and the monitoring results at the individual monitoring sites show, overall, a further decrease in the exposure of groundwater to plant protection products for the current assessment period from 2017 to 2019 (the basis for drawing up the 2021 NGP). Two groundwater bodies do not have good chemical status due to more frequent contamination with degradation products of the active substances dimethachlor/metazachlor and the active substance atrazine, which is no longer approved since 1995. Thresholds are still being exceeded at individual monitoring sites as a result of local or regional contamination by plant protection products. The monitoring results and status assessment serve as a basis for further action planning.

1 https://www.bmlrt.gv.at/wasser/wisa/ngp/entwurf-ngp-2021.html
2 https://www.bmlrt.gv.at/wasser/wisa/ngp/ngp-2015.html

4.1.1.2. Environmental objectives for groundwater and surface waters and maximum permitted levels for drinking water

For groundwater and surface waters, the environmental quality standards defined for good chemical status are set out in the *Qualitätszielverordnung Chemie Grundwasser* (QZV Chemie GW) [Quality targets (chemicals in groundwater) Regulation] and the *Qualitätszielverordnung Chemie Oberflächenwasser* (QZV Chemie OG) [Quality targets (chemicals in surface waters) Regulation]. For groundwater, the threshold levels for active substances and relevant metabolites are set uniformly at 0.1 µg/l and 0.5 µg/l respectively for the sum of the individual substances, in accordance with the precautionary principle. Substance-specific environmental quality standards are set for surface waters in order to protect aquatic biocenosis.

The *Trinkwasserverordnung* (TWV) [Drinking Water Regulation] also sets a maximum permitted level of 0.1 µg/L for active substances and relevant metabolites in drinking water. Action values for non-relevant metabolites are regulated by decree of the competent Federal Ministry (BMSGPK). The action values set for specific substances range from 0.3 to 3.0 µg/l.

4.1.2. Monitoring

4.1.2.1. Water status monitoring

The GZÜV's monitoring network includes approximately 2 000 monitoring sites for groundwater monitoring in Austria. Every 6 years, in the year that constitutes the initial observation period under the EU Water Framework Directive, the monitoring sites are subject to three major inspections. In the following years of repeat observation, all groundwater monitoring sites must be examined at least once a year. In addition, monitoring sites where there were conspicuous findings during the initial observation are subject to operational follow-up in the years of repeat observation. The results of the monitoring programme are regularly published in the annual water quality reports[3].

Monitoring of plant protection products in groundwater covers 192 substances for the period 2019-2021 as part of surveillance monitoring. These include the substances laid down in the Annex to the GZÜV (79) and a list of plant protection products (113), which has been compiled according to current knowledge.

Routine monitoring in accordance with the GZÜV is supplemented by special measurement programmes for specific issues.

4.1.2.2. Monitoring of drinking water quality

In Austria, drinking water is produced exclusively from groundwater and spring water. Abstraction points for drinking water are monitored in accordance with the requirements of the Drinking Water Regulation. Since drinking water is subject to food law, the monitoring of drinking water is carried out as part of food inspection activities. According to the 2017 Drinking Water Report[4] (BMASGK), the parametric value for a metabolite of the (no longer

[3] https://www.bmlrt.gv.at/wasser/wasserqualitaet/jahresbericht_2016-2018.html
[4] https://www.verbrauchergesundheit.gv.at/lebensmittel/trinkwasser/Trinkwasserbericht.html

approved) plant protection product atrazine was found to have been exceeded for plant protection products in a water supply facility[5].

4.1.3. Existing rules, support programmes and advice

4.1.3.1. Authorisation of PPPs

As part of the authorisation of plant protection products, specific requirements and conditions have been established to protect the aquatic environment and drinking water. Plant protection authorisation procedures already include such requirements and conditions, e.g. minimum distances from surface waters, ban on direct use on sealed surfaces and surfaces with a high risk of run-off.

On the basis of the groundwater quality monitoring results, restrictions on use in protection and conservation areas under water law were established for the active substances metazachlor, terbuthylazine and dimethachlor as part of the authorisation. In addition, Austrian authorisations for plant protection products containing bentazone were withdrawn in 2017. The relevance of degradation products exceeding the threshold of approved active substances should be clarified as soon as possible.

4.1.3.2. Provisions under water law

Protection of water supply facilities

In order to protect water supply facilities in qualitative and quantitative terms (Section 34 WRG) or to ensure that future drinking and non-drinking water needs can be met (Section 35 WRG), the competent water authority may establish protection and conservation areas. With regard to plant protection products, requirements or prohibitions of use can be adopted in these areas; corresponding recommendations on appropriate measures are set out in ÖVGW[6]-Guideline W72 '*Schutz- und Schongebiete*' ['Protection and conservation areas'].

At present, around 200 conservation areas are designated under Sections 34 and 35 of the WRG, with a total area of approximately 5 500 km² (draft 2021 NGP data). These conservation areas include all groundwater bodies with abstraction of drinking water of more than 10 m³/day on average or serving more than 50 persons. In addition, there are a large number of protected areas of individual small water supplies.

Checks by the Water Inspectorate

Checks on water monitoring pursuant to Section 130 WRG with regard to plant protection products are routinely carried out in one province (Styria) as part of a groundwater protection programme. Around 500 checks are carried out each year in conservation areas or on farms. In the other provinces, checks are carried out only if necessary.

4.1.3.3. Provisions under provincial law (Article 12 of Directive 2009/128/EC)

The provinces have laid down in their legislation that, under certain conditions or in particular areas, the provincial governments must limit or prohibit the use of plant protection products

---

5 The data in the report concern water supply facilities from which more than 1 000 m³ per year are taken on average or which serve more than 5 000 people.

6 *Österreichische Vereinigung für das Gas- und Wasserfach* (ÖVGW) [Austrian Gas and Water Association]

on account of the risks associated with their use. Restrictions on use in river basins used by water supply facilities may also be considered.

Some provinces have also introduced additional conditions for the use of such products (e.g. the Upper Austria Pesticides Strategy 2015).

4.1.3.4. The ÖPUL agri-environmental programme

The ÖPUL 2015 agri-environmental programme includes, in addition to wide-ranging measures, region-specific measures for the protection of groundwater and surface waters.

With regard to plant protection products, selected measures support the non-use of chemical-synthetic inputs, and promote knowledge about the efficient use of plant protection products through mandatory training. In addition, surface water and groundwater-friendly farming methods are promoted regionally.

The aim of these measures is to establish permanent green areas on which the use of inputs is not permitted, to create riparian zones, to reduce soil erosion and to decrease or eliminate the use of plant protection products.

In 2020, around 13 500 farms with a total area of around 322 000 hectares participated in ÖPUL's 'Preventive groundwater protection', 'Preventive surface water protection' and 'Management of arable land at risk of leaching' measures. As of 2023, a new ÖPUL programming period will be implemented and the measures adapted accordingly.

4.1.3.5. Technical advice

Technical advice for professional users is ensured by statutory interest groups (in particular chambers of agriculture), which are required by law to provide advice. The protection of the aquatic environment and of drinking water forms an integral part of such technical advice, which involves assisting users with the selection of locally adapted crops, crop rotations and integrated pest management measures. A particular focus is also placed on the selection of suitable, environmentally friendly application techniques and proper cleaning of plant protection equipment, as well as proper disposal of residual quantities. Similar technical advice is also available in the non-agricultural sector. The advisory services are accompanied by a wide range of education and training offered in connection with the training attestation required under Article 5 of Directive 2009/128/EC (see Chapter 1).

4.2. Quantitative objectives, targets and timetables

The requirements of the QZV Chemie GW, the QZV Chemie OG, the TWV and the action values in accordance with the BMASGK decree with regard to plant protection products must be complied with. In addition, the following objectives are set out:

Objectives	Target	Attainment
1. Further reduction in contamination of groundwater and surface waters by plant protection products and metabolites	Reduction of concentrations by 30% compared to 2019	2026
2. Increase in land on which no plant protection products are used	10% increase in land compared to 2019	2026

Objectives	Target	Attainment
3. Increase in agricultural land with permanent green cover on areas at risk of flooding[7]	1 000 ha	2026
4. Increase the use of drift-reducing plant protection equipment	Increase to more than 50% the share of arable and vertical crops equipment belonging to a drift-reduction category of 75% or higher	2026
5. Increase the use of plant protection equipment (with container size > 200 l) equipped with fresh water tanks for cleaning on the field	100%	2026
6. Access to free, high-quality technical advice by independent advisory bodies for professional users of plant protection products	100%	annually
7. Access to training, education and training on the protection of the aquatic environment and drinking water for professional users of plant protection products	100%	annually
8. Institutional exchanges	1x	annually

4.3. Measures

Re Objective 1:

In order to reduce the exposure of groundwater and surface waters to plant protection products, existing measures and regulations are continued and adapted where necessary (use restrictions, designation of protected areas, etc.). These are complemented by the measures formulated under objectives 2 to 8. This target also contributes to achieving the objectives of the European Green Deal (Farm-to-Fork and Biodiversity Strategy) to reduce the use of and risk from plant protection products by 50% by 2030.

Re Objective 2:

The agri-environmental programme includes a number of measures that contribute to the reduction of inputs of plant protection products and their degradation products into surface water and groundwater. This includes, for example, foregoing the use of plant protection products.

The EU's reoriented Common Agricultural Policy (CAP 2020+) will continue to focus on the protection of surface water and groundwater. Water-friendly farming methods will therefore continue to be supported under the Austrian agri-environmental programme. Agri-

[7] Strauss et al., 2020: Soil erosion in Austria – a national calculation with regional data and local significance for ÖPUL. Final Report, 32-434/20, Petzenkirchen

environmental measures in the area of water protection are currently being designed in detail and developed on the basis of evaluation results in dialogue with technical experts and in combination with a broad consultation process.

Re Objective 3:

An updated estimate of soil erosion in Austria was carried out by the Federal Agency for Water Management for the period 2017 to 2018 (Strauss et al. 2020). As part of the assessment, areas with potentially high and very high soil depletion due to erosion were identified on which more far-reaching measures should be taken to protect against erosion and run-off.

Measures to limit erosion or run-off can be effectively supported by measures that reduce inputs to surface waters (permanent greening of run-off areas and the creation of riparian buffer zones permanently covered in vegetation where inputs to surface waters actually occur). For these measures, too, it is crucial to identify areas having an impact on inputs into water bodies.

Re Objective 4:

Due to the high potential risks for the environment, humans and animals, plant protection products are subject by law to a comprehensive authorisation procedure. When a plant protection product is authorised, certain requirements and conditions are imposed with regard to the instructions for use, such as the use of anti-drift-reducing plant protection equipment, in order to prevent the input of plant protection products into surface waters in the context of their application. If certain precautions are taken as regards the equipment features and operation, the normal distance to surface waters may be reduced without creating a risk of unacceptable exposure for aquatic organisms.

Re Objective 5:

Plant protection products may enter groundwater and surface waters in different ways. In addition to input from treated surfaces through drift or surface run-off, point source inputs – which may occur during filling and cleaning – pose a particular risk.

Inputs of plant protection products can be avoided by using proper plant protection equipment and by exercising care during the storage, filling, use and above all cleaning of sprayers.

Re Objectives 6 and 7:

Information is to be made available on the characteristics of plant protection products whose active substances and relevant degradation products are particularly important in terms of protecting the aquatic environment and drinking water.

The targeted advisory services, in particular with regard to the properties of plant protection products, their active substances and degradation products and the extensive educational offer, are to be constantly adapted and developed. Relevant thematic priorities, depending on the season, are to be set in the appropriate media, for example in specialist articles. The increasing use of digital education and training channels across the federal provinces makes it easier for the target audience to access topics linked to the protection of the aquatic environment and drinking water.

Re Objective 8:

Regular institutional exchange on current developments (e.g. information on non-relevant metabolites exceeding the indicative threshold value of > 10 µg/l or their action value, the leaching behaviour of degradation products, etc.) between AGES (assessment of PPPs) and Section I Water Management/Division I/2 (management of the water status survey). Updating and specification of ongoing monitoring programmes.

5. Reducing the risks and the quantities of plant protection products used

5.1. Background

5.1.1. Authorisation of plant protection products

The assessment and authorisation procedures currently in place for plant protection products have in recent years already considerably reduced the risks that can arise from the use of such products.

The conditions for an ongoing reduction in the amounts used, and thus the risks, emerged from routine reviews of existing authorisations and a concomitant more precise specification of indicators. Furthermore, the risks of the use of plant protection products and the risks to the environment were reduced. The same applies to the low-risk plant protection product category referred to in Article 47 of Regulation (EU) No 1107/2009. These are plant protection products containing only low-risk active substances in accordance with Article 22. This category is available separately in the Austrian Plant Protection Products Register.

The differentiation between plant protection products for professional use and those for home and small garden areas (see Chapter 6.2.3.) with a limited range of products, quantity limits, dosing aids, etc. and mandatory increased advice in the non-professional sector created the conditions for reducing the risks of inappropriate use by individuals with no training.

5.1.2. Use of plant protection products, plant protection equipment

In accordance with the principles of good plant protection practice and integrated pest management, professional users must follow crop and sector-specific guidelines (see point 7.1.4.) intended inter alia to reduce the use of plant protection products.

Crop-specific alert services for users are available free of charge at www.warndienst.at for decision-making for targeted and needs-based integrated pest management measures. Explanatory videos were produced by the relevant experts in order to facilitate their use and interpretation (see point 5.1.3.).

Plant protection products may be applied using only plant protection equipment inspected by the authorities in accordance with the legal provisions transposing the requirements of Directive 2009/128/EC on the sustainable use of pesticides (see point 6.2.8.).

In addition to the official inspection of plant protection equipment, the Austrian Association for Integrated Plant Protection (*Österreichische Arbeitsgemeinschaft für integrierten Pflanzenschutz* – ÖAIP) assesses the plant protection equipment types of various manufacturers. If the types of equipment attain the standards developed by experts of ÖAIP members (including the BLT) on the basis of the applicable EN-ISO standards at the time of placing on the market, the equipment may be sold with an ÖAIP quality label.

Functioning and user-friendly plant protection equipment is thus essential for targeted plant protection and for reducing potential risks for users and the environment.

Throughout Austria, a wide range of specialist advice and specific education and training opportunities are available to professional users (see Chapter 1). These serve to develop and further implement the practice of integrated pest management and organic farming.

The services referred to above are based on advisory services within the framework of the statutory interest representation (chambers of agriculture) at provincial level. This makes it possible to address, in particular, regional circumstances and requirements. Associations and private organisations also provide targeted advice and information services.

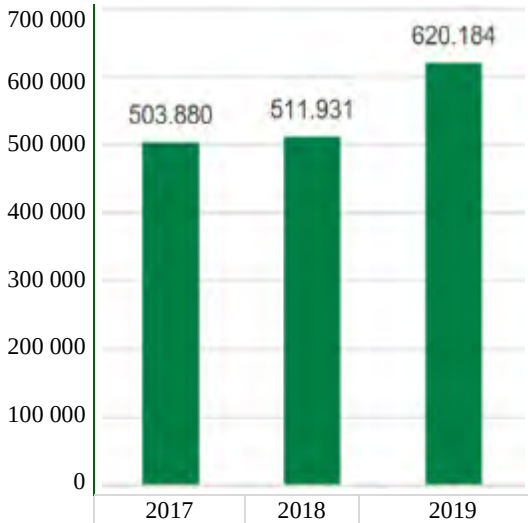
The independent information platform of the Austrian chambers of agriculture (lk-online) serves to provide specialist information, in particular with regard to integrated pest management. For the whole of Austria, around 600 000 hits on the platform in 2018 and around 835 000 in 2019 related to the field of crop production, which includes integrated pest management methods. Around 137 000 of the hits recorded in 2018 and around 223 000 of those recorded in 2019 concerned specific plant protection products. Agricultural experimentation also contributes to finding interdisciplinary solutions to current plant cultivation problems.

At provincial level, Carinthia and Vorarlberg have adopted restrictions on the range of products allowed for use by non-professional users. Details can be found under point 6.2.4.

5.1.3. Alert service

The reach of the alert service of the Austrian Chamber of Agriculture (LK-Warndienst) is illustrated in the graph below showing the number of hits Austria-wide on www.warndienst.at. In recent years, the ongoing expansion and development of the service has led to a steady increase in the number of hits on the website.

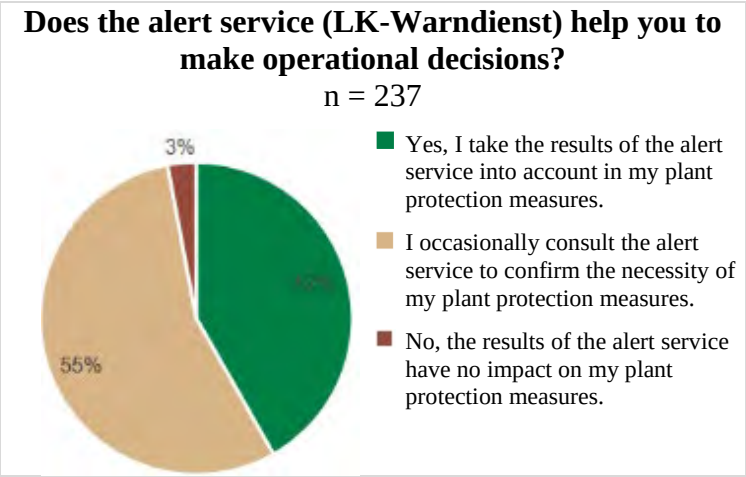
Austria-wide annual number of hits on www.warndienst.at



	2017	2018	2019
Annual number of hits	503 880	511 931	620 184

The total number of hits increased by 23% from 503 880 to 620 184 between 2017 and 2019. The alert service is therefore an important tool in reducing the quantitative use of plant protection products, as the forecasts and monitoring provided support a more targeted use of plant protection products.

In 2020, users of the alert service had the possibility to evaluate it. This evaluation was carried out online and anonymously. A total of 237 participants from all over Austria took part in the evaluation.



The results of the survey included the following:

42% of participants stated that they followed the alert service's recommendations when taking plant protection measures. A further 55% at least occasionally seek confirmation of their plant protection measures by consulting the alert service's recommendations. Only 3% are not influenced by the alert service's recommendations. This shows that Austrian farmers are already very conscious of the sustainable use of pesticides, and that there is scope for further awareness-raising in this area through projects such as the alert service.

The majority (55%) of users use PCs or laptops. A further percentage of users access the service via mobile devices (32% use mobile phones and 12% tablets). This means that in future care should also be taken to ensure that the alert service can be fully accessed via mobile devices.

5.1.4. The ÖPUL agri-environmental programme

The main instrument for reducing the use of plant protection products in agriculture are the voluntary measures of the local agri-environmental programme (ÖPUL). The agri-environmental programme takes a horizontal approach, through which environmental measures are to be implemented as widely as possible on arable and grassland, as well as permanent crops. In addition to reducing the use of chemical-synthetic inputs, the 24 different measures of the current ÖPUL 2015 agri-environmental programme aim to protect natural resources, biodiversity, soil, water and climate. Broad agri-environmental measures offered throughout Austria, such as 'Organic farming – Bio' or 'Environmentally friendly and biodiversity-promoting farming – UBB', are complemented in the programme by regional measures in the fields of water and nature conservation relating to specific areas (BMLFUW 2014). In 2020, almost 91 000 farms participated in the domestic agri-environmental programme, representing about 80% of total Austrian farms in IACS (Integrated Administration and Control System). In total, therefore, almost 80% of all Austrian agricultural land (excluding alpine pastures), i.e. around 1.8 million hectares, was involved in ÖPUL measures. Compared to other EU Member States, Austria has one of the highest participation rates in the agri-environmental programme.

With almost 30% of IACS agricultural areas included in the ÖPUL measures 'Organic farming' (BIO) and 'Limitation of yield-increasing inputs – grassland' (EEB-Grünland), it was possible in 2019 alone to ensure that chemical-synthetic plant protection products were not used on approximately 770 000 hectares of agricultural land (2019 'Organic farming': 517 175 hectares; 'Limitation of yield-increasing inputs': 259 444 hectares). Commitments to refrain from using plant protection products are also included in the ÖPUL measures 'Environmentally friendly and biodiversity-promoting farming (UBB)', 'Nature protection' and ÖPUL water protection measures and partial non-use of plant protection products in special crops.

In addition, appropriate mandatory training covering the efficient use of plant protection products is a key element in the implementation of ÖPUL measures involving non-use or a reduction in the use of plant protection products.

The reorientation of the European Union's Common Agricultural Policy (CAP 2020+) will continue to focus on the efficient use of plant protection products. The new CAP period will link both direct payments and rural development funds to increased environmental and climate ambitions. Member States will have greater flexibility in deciding how to achieve the EU-wide environmental objectives in the future. As part of the Austrian agri-environmental programme, pesticide-reducing or pesticide-free farming methods will in any case continue to be supported by compensating for lower yields and higher farming costs. The detailed design of agri-environmental measures is discussed with experts on the basis of relevant evaluation results. The impact of the measures is already assessed ex ante when the programme is drawn up and will also be evaluated on an ongoing basis by independent experts as part of the implementation of the measures, in order to draw conclusions on their impact and potential for improvement. The agri-environmental measures are therefore being developed in a targeted way on the basis of these data, combined with a broad consultation process.

5.1.5. Initiatives aimed at reducing risks and quantitative use of plant protection products

Various initiatives and legal requirements (see points 5.1.6. and 6.2.4.) also contribute to reducing the use of plant protection products in the non-agricultural sector. There are also some voluntary pesticide-free programmes. Examples include the various municipalities across the country that have decided not to use glyphosate, the Wiener Stadtgärten [Vienna City Gardens], Wiener Linien [public transport company] and the 'Natur im Garten' [nature in gardens] movement.

5.1.6. Specific areas

Specific areas within the meaning of Article 12 of Directive 2009/128/EC which require special attention as regards the use of plant protection products are:

- areas used by the general public or by vulnerable groups as defined in Article 3 of Regulation (EC) No 1107/2009, such as public parks and gardens, sports and recreation grounds, school grounds and children's playgrounds and areas in the close vicinity of healthcare facilities;
- protected areas as defined in Directive 2000/60/EC or other areas identified for the purposes of establishing the necessary conservation measures in accordance with the provisions of Directives 79/409/EEC and 92/43/EEC;
- recently treated areas used by or accessible to agricultural workers.

The fact that plant protection products may be used in these areas in Austria only to a very limited extent, if at all, is laid down by corresponding provisions in various regulatory areas which dovetail with each other in terms of their objectives. First of all, reference should be made to the instructions for use stipulated in the authorisation of plant protection products for each product and which must be followed by the user. By way of example, an extract from the usual labelling of a herbicide ('Rosate Clean 360', registration number 2948-903), which is also authorised for lawns (the relevant instructions must be followed when using it), reads as follows: '*No application on children's playgrounds. Treated lawn areas may not be accessed until 10 days after application. Do not use treated growth (dead plant matter cleared before*

reseeding) for feeding small animals or for keeping small animals. Do not apply directly to sealed surfaces (e.g. concrete, bitumen, paving, slabs)'.

Where necessary for technical reasons, conditions of use are stipulated, not only for water protection and conservation areas, but for all water bodies, so that the plant protection product in question does not pose a risk to water bodies in general. Such requirements (which appear on the labelling of each plant protection product) are usually as follows: '*Do not allow products and/or their containers to enter the aquatic environment. Do not clean application equipment in the immediate vicinity of surface waters/avoid contamination via drains from farmyards and roads. In order to protect aquatic organisms/non-target plants, do not apply on sealed surfaces such as asphalt, concrete, cobblestones (railway tracks) and in other situations with a high risk of run-off. To protect aquatic organisms from being washed into surface waters, application on areas at risk of erosion is not permitted.*'

Other examples of the protection of specific areas can be found in many of the respective specific protected areas regulations, which in Austria are generally found in regulations implementing provincial laws. Such a regulation applies, for example, to the 'Feuchtmulde Alte Schanze' nature reserve in Parndorf, in the Province of Burgenland. Pursuant to Section 3(2)(3) of that Regulation, LGBl. No 91/2019, it is expressly prohibited '*to introduce chemicals of any kind, in particular artificial fertilisers, plant protection products, biocides and the like, or to change the location and current natural environment by any other means*'.

Under the nature protection laws of the provinces, in Natura 2000 sites and other protected areas (e.g. floodplains), if agricultural use is permitted at all, it is normally necessary to hold the appropriate permits (see, for example, Section 2(2) of the *Tiroler Naturschutzgesetz* [Tyrol Nature Conservation Act] 1997, LGBl. No 26/2005).

Another example of restrictions on the use of plant protection products in certain areas is the *Wiener Friedhofsordnung* [Vienna Cemetery Code], GZ: 2406/10, of 1 January 2011, based on provisions of provincial legislation. Section 7(7) of that Code reads as follows: '*The use of weed control products and plant protection products in the maintenance of graves shall be prohibited. Any exception to this rule requires the consent of Friedhöfe Wien GmbH*'. According to the preamble to the Vienna Cemetery Code, the areas of cemeteries in Vienna '*constitute a significant proportion of urban green areas and thus make an important contribution to the conservation of the habitat for urban fauna and flora. Cemeteries also serve as resting and relaxation areas.*' In Austria, such rules are typically found in regulations of individual municipalities, which have the power to adopt regulatory provisions for their municipal territory. Accordingly, the Regulation of 11 May 2020 of the municipal council of the market municipality of Finkenstein am Faaker No 817-01/2020, laying down the cemetery and urn site rules in accordance with the *Kärntner Bestattungsgesetz* (K-BStG) [Carinthian Act on Burial Service), LGBl. No 61/1971, as amended by LGBl. No 61/2019, provides for a ban on '*the use of weedkillers and pesticides for grave maintenance.*'

The establishment of indoor swimming pools, artificial outdoor pools, jacuzzis and swimming ponds is subject to authorisation by the district administrative authority in Austria in accordance with the *Bäderhygienegesetz* [Bathing Hygiene Act], BGBl. No 254/1976, as amended, which, as a Federal Act, applies uniformly through Austria. An authorisation for a bathing establishment may be granted only if sufficient precautions, particularly with regard to hygiene, are taken to protect the health of bathers. Such authorisations should normally include the appropriate requirements as 'conditions' prohibiting, inter alia, the use of plant protection products in the bathing area.

5.2. Quantitative objectives, targets and timetables

Objectives	Target	Attainment
1. Provision of free access to the Plant Protection Product Register to control authorities and all users (see also point 6.3.)	100%	ongoing
2. Adaptation of the format of the Plant Protection Product Register to make it user friendly for all devices (PC, laptop, smartphone, tablet) (see also point 6.3.)	100%	2025
3. Maintaining the participation rate in ÖPUL in order to maintain high environmental standards.	80% of IACS holdings	ongoing
4. Increase in the number of hits on the alert service platform of the Austrian Chamber of Agriculture	15% increase in the number of hits compared to 2019	2026
5. Monitoring of the requirement stating that professional users must use only inspected application equipment for plant protection products (see also point 3.2).	1 000 holdings	annually
6. Access for professional users to independent advice and training on possible risks for water protection, non-target areas and non-target organisms, user protection and the appropriate use of plant protection products	100%	ongoing
7. Increase in the number of hits on the independent information platform of the chambers of agriculture (lk-online)	20% increase in the number of hits compared to 2019	2024
8. Foregoing of the use of chemical-synthetic plant protection products in towns and municipalities	10% increase on 2020	2026

5.3. Measures

Re Objectives 1 and 2:

Maintaining and further developing the free and user-friendly official Plant Protection Product Register and making it easy for the control authorities and all end users to access it on any device so that only those plant protection products entered in the register are used.

Re Objective 3:

As Austria, with a participation rate of 80%, is already one of the Member States with the highest level of participation in the agri-environmental programme at EU level, the aim is to

maintain this high quota in light of the reorientation of the Common Agricultural Policy of the European Union (2020+).

The detailed design of agri-environmental measures is discussed with experts on the basis of relevant evaluation results. The impact of the measures is already assessed ex ante when the programme is drawn up and is also evaluated on an ongoing basis by independent experts as part of the implementation of the measures, in order to draw conclusions on their impact and potential for improvement. The agri-environmental measures are therefore being developed in a targeted way on the basis of these data, combined with a broad consultation process.

Re Objective 4:

The continuous development of the Austrian alert service is a key tool for the targeted implementation of the principles of integrated pest management. As the survey results show, forecasting models and monitoring directly influence operational decisions regarding the use of plant protection products. The same survey also provided an indication of the need for further development of the alert service platform. On the one hand, the availability of further practical forecasts and monitoring should be stepped up under appropriate budgetary conditions. On the other hand, the user profile shows that further development is also needed with regard to mobile end devices in particular.

Re Objective 5:

The requirement to use tested plant protection equipment is checked on-the-spot when plant protection products are used (see point 3.3.).

Re Objectives 6 and 7:

Professional users should continue to be provided with more targeted advice, in particular with regard to the proper use and the properties of plant protection products, and ways to reduce risks. The extensive training offer is also constantly being adapted and developed. Particular emphasis should be placed on reducing possible risks by using suitable drift-reduction equipment technology, on protecting users and on environmentally friendly plant protection measures in the context of integrated pest management. Relevant information priorities are set, depending on the season, and using the appropriate media, such as the lk-online platform available in all provinces, through specialist articles, podcasts and videos. The increasing use of digital education and training channels across the federal provinces makes it easier for the target audience to access the topics of proper use, water protection and minimum distances from surface waters, non-target areas and non-target organisms and the protection of users.

Re Objective 8:

In certain areas used by the general public or by vulnerable groups, such as public parks and gardens, sports and recreation grounds, school grounds and children’s playgrounds, as well as areas in the immediate vicinity of healthcare facilities, particular attention must be paid to the use of plant protection products (see point 5.1.6.).

Regardless of the province-specific legal provisions concerning specific areas, initiatives such as ‘Natur im Garten’ should ensure that synthetic chemical plant protection products are not used on any areas in cities and municipalities.

6. Use of plant protection products and cleaning of plant protection equipment

6.1. General

Under the Austrian Constitution, the Federal Government is responsible for regulating the authorisation and marketing of plant protection products and for legislation on the use and storage of such products in the forestry sector and the enforcement of such legislation. The nine provinces are responsible for regulating the use and storage of plant protection products in all other areas, in particular agriculture. Federal and provincial plant protection legislation and implementing regulations contain detailed rules on the subject.

Only those plant protection products may be used that have been authorised in Austria pursuant to Regulation (EC) No 1107/2009 and the 2011 Plant Protection Products Act, or licensed in Austria, and only in accordance with the terms of the authorisation (requirements and conditions), in particular as they appear on labels.

6.2. Background

6.2.1. Plant protection product use

Taking into account the grace period and those plant protection products which are demonstrably only being stored with a view to disposal or return to the supplier, only plant protection products that appear in the Austrian Plant Protection Product Register may be used. Use includes preparation and application, as well as storage, and the transport of plant protection products within establishments for the purpose of their use. Products authorised/licensed in Austria and entered in the Plant Protection Product Register are always given a register number. The use of plant protection products for professional users must comply with the principles of good plant protection practice and the principles of integrated pest management and is reserved for qualified individuals holding the appropriate proof of competence (Article 5, Directive 2009/128/EC).

6.2.2. Different types of plant protection product authorisation

The European authorisation procedures distinguish between several types of authorisation which have different legal bases and also differ in terms of the scope of their use and the applicable time-limits. Basic information on the authorisation of plant protection products can be found in point 6.1.

6.2.2.1. Parallel trade permit

Under the 2011 Plant Protection Product Act, authorised products include plant protection products in respect of which ‘parallel trade permits’ have been granted. A plant protection product for which a parallel trade permit has been granted has the same Austrian Plant Protection Product Register number as the product originally authorised in Austria, but with an additional qualifier (additional digit). Such a product may, however, have a different trade name from the product originally authorised in Austria (as a rule, there will also be various permit holders for any given authorisation holder). These plant protection products are also listed in the Austrian Plant Protection Product Register.

6.2.2.2. Distribution extension

'Distribution extensions' ('*Vertriebserweiterungen*') constitute another special form of authorisation. A plant protection product with a distribution extension under Article 13 of the 2011 *Pflanzenschutzmittelverordnung* [Plant Protection Product Regulation] has the same Austrian Plant Protection Product Register number as the reference product that has already been approved in Austria, but with an additional distribution number (three-digit figure). A product with a distribution extension may be placed on the market under a different trade name. The designations of a plant protection product covered by the distribution extension are also recorded in the Plant Protection Product Register.

6.2.2.3. Emergency authorisation

Emergency authorisations in accordance with Article 53 of Regulation (EC) No 1107/2009 constitute a temporary authorisation for emergency situations in agricultural crops and can be consulted in the Plant Product Protection Register.

6.2.2.4. Grace period

Under Regulation (EC) No 1107/2009, the grace period (period during which a plant protection product may still be used after expiry of authorisation) is limited and may not exceed six months for the sale and the distribution and an additional maximum of one year for the storage and use or disposal of existing stocks of the plant protection product concerned. Plant protection products whose authorisation/permit has expired but for which a grace period is still in place, can be found in the Plant Protection Product Register by clicking on the 'Predefined search' tab and selecting 'Renewals of authorisations, approvals and extensions for distribution' from the dropdown menu. The precise grace periods are also indicated there.

6.2.3. Plant protection products for professional users and other users

The authorisation system distinguishes between plant protection products for professional and non-professional users. Plant protection products for non-professional users are described as being for 'home and garden use'. They must have certain handling characteristics and must be easy to use in the correct amounts (have a dosing device). They also have to be packaged in limited quantities (ready-to-use packs for no more than 500 m²) and must degrade rapidly. Plant protection products with certain hazardous characteristics may not be authorised for home and garden use. This helps to avoid non-professionals using products whose handling may involve risks.

6.2.4. Province-specific rules on use

In the provinces of Carinthia and Vorarlberg, non-professional users may use only plant protection products which are authorised under the provisions governing the placing on the market of plant protection products for domestic and small garden areas and

- are low-risk plant protection products within the meaning of Article 47 of Regulation (EC) No 1107/2009 concerning the placing of plant protection products on the market; or
- contain substances authorised for organic farming in accordance with Annex I to Implementing Regulation (EU) 2021/1165 on organic production.

6.2.5. Aerial spraying

In Austria, aerial spraying of plant protection products [from aircraft] is generally prohibited. At most, individual authorisations could be granted upon request.

Under Section 11(1) of the *Luftfahrtgesetz* [Austrian Aviation Act], aircraft includes all vehicles which can transport persons or objects by air without a mechanical connection to the earth. Accordingly, the term includes, inter alia, aeroplanes, helicopters and drones.

6.2.6. Conditions of use

The essential conditions for safe use are included in the packaging labelling of plant protection products. Distributors, statutory interest groups, and clubs (e.g. gardening clubs) provide information on how plant protection products should be stored, handled, used and disposed of safely. Detailed information on fields of use, the amounts to be used, frequency of use, buffer zones, how to reduce risks (e.g. how to reduce spray drift), etc., can be found on the label of a plant protection product. The correct use of plant protection products is also clearly explained to users as part of the independent expert advice provided and in various publications. Further information, including on the protection of users, is provided as part of the initial and further training of professional users. In addition, the safety data sheet, which must be provided and kept by the distributor, contains points relevant to user protection. Information on the correct handling and selection of suitable personal protective equipment will be provided in cooperation with the insurance institutions (social insurance). The competent authorities monitor continuously to ensure that professional users are storing, handling and using plant protection products in the proper manner. The federal authorities are responsible for monitoring the storage of such products during the process for placing them on the market.

6.2.7. Storage and disposal

There is specific legislation governing the storage of plant protection products. The disposal of residual quantities and their containers is subject to waste legislation. Containers which have not been cleaned, empty or not, may be returned to the distributor through special collection programmes or taken to municipal recycling centres. They are then disposed of professionally.

6.2.8. Plant protection equipment

Only suitable new equipment and plant protection application equipment which is regularly inspected and serviced may be used. Ongoing maintenance requirements are to be met in accordance with the equipment manufacturer’s instructions, and equipment must be calibrated and functionally tested before it is put into service. The relevant statutory provisions must be complied with regarding the filling and cleaning of the equipment. Users can acquire the necessary knowledge during specialist training, for instance. Under no circumstances may any waste water or residual amounts be discharged into surface waters, groundwater or the sewer system, or otherwise harm the environment. Point source inputs are to be avoided; waste water from the cleaning of equipment should be widely distributed on the previously treated target area or sent to a ‘Phytobac’ system. The guidelines entitled ‘Sachgerechtes Befüllen und Reinigen von Pflanzenschutzgeräten’ [Proper filling and cleaning of plant protection equipment] (published by Landwirtschaftskammer Österreich, ÖAIP, Industriegruppe

Pflanzenschutz) serve as a basis. They include instructions on how properly to dispose of any remaining spray mixture and how to clean equipment after use, etc.

The 'Grundsätzen der Pflanzenschutzpraxis' [Principles of Plant Protection Practice] (published by ÖAIP, Industriegruppe Pflanzenschutz) also provide technical guidance on integrated pest management. In addition, sector-specific guidelines describe the principles of filling and cleaning plant protection application equipment.

6.2.9. Controls on the use of plant protection products

Controls on use are carried out by various federal and provincial authorities, in particular the AMA, the provinces in the context of worker protection and general controls on use (see point 7.1.9).

6.3. Quantitative objectives, targets and timetables

Objectives	Target	Attainment
1. Provision of free access to the Plant Protection Product Register for control authorities and all users (see also point 5.2.)	100%	ongoing
2. Adaptation of the format of the Plant Protection Product Register to make it user friendly for all devices (PC, laptop, smartphone, tablet) (see also point 5.2.)	100%	2025
3. Provision of an online calculation tool for calculating the exact quantity of spray liquid required in order to minimise residual quantities for users	100%	2024
4. Access to information on plant protection products containing low-risk active substances	100%	ongoing
5. Access for professional users to independent advice and training on potential risks concerning water protection, non-target areas and non-target organisms and protection of users	100%	ongoing
6. Proper disposal of non-compliant plant protection products by the competent authority	100%	annually
7. Access to training for users on professional cleaning of plant protection equipment	100%	ongoing

6.4. Measures

Re Objectives 1 and 2:

Maintaining and further developing the free and user-friendly official Plant Protection Product Register and making it easy for the control authorities and all end users to access it on any device so that only those plant protection products entered in the register are used.

Re Objective 3:

Improving information and advice for all users on how to keep plant protection product residues to a minimum by providing an online calculation tool for calculating the exact quantity of spray liquid required, so that residual quantities are minimised and the technical residual quantities that cannot be reduced are properly disposed of.

Re Objective 4:

In addition to the development of information material on the proper use of plant protection products, access to information on plant protection products containing low-risk active substances should also be provided.

Re Objective 5:

As part of independent advice and training, the aim is to raise further awareness about reducing potential risks through drift-reducing technology in terms of water protection and distance to surface waters, non-target areas and non-target organisms and the protection of users.

Re Objective 6:

As part of the controls on the use of plant protection products by the competent authorities, it must be ensured that non-compliant plant protection products are disposed of properly.

If, in the course of an inspection by the AMA or other federal or provincial authorities, any infringement with regard to unauthorised plant protection products is identified, this non-compliance is reported to the competent district administrative authority and the latter must arrange for disposal.

Re Objective 7:

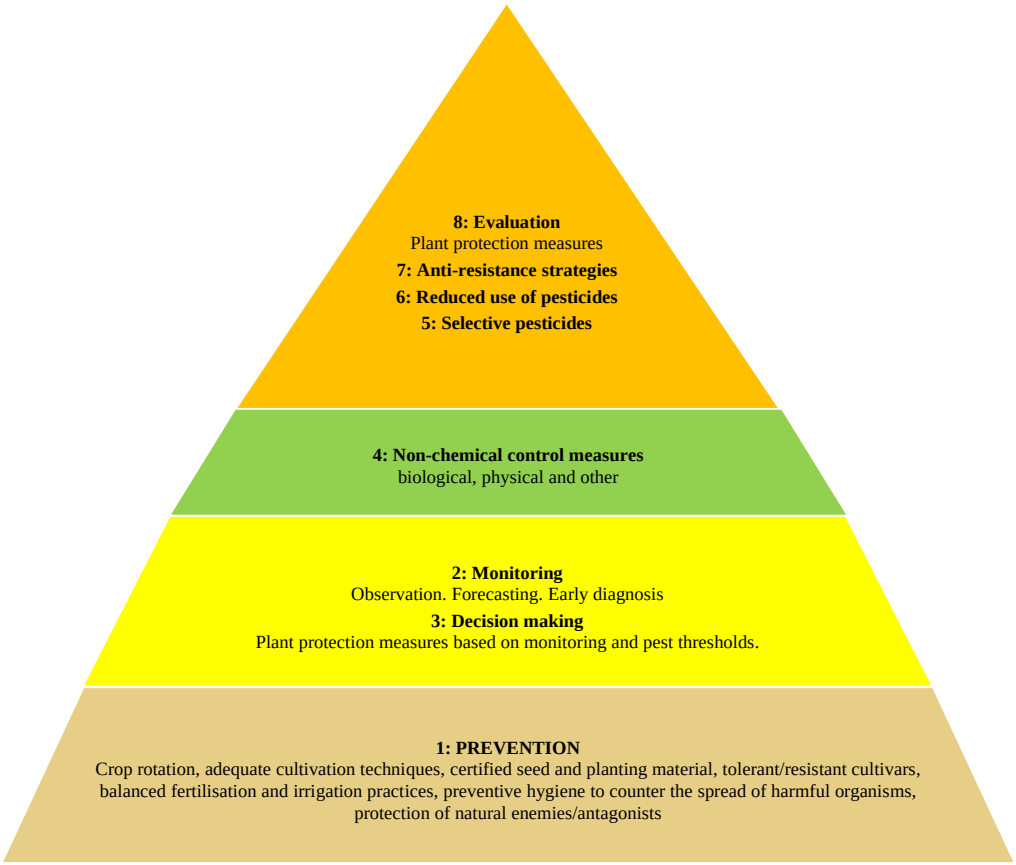
The training offer and the ongoing initial and further training must be designed in such a way that users become even more attentive to the proper cleaning of plant protection equipment.

7. Further development of integrated pest management

7.1. Background

Austrian agriculture is committed to the integrated pest management strategy for the preventive, environmentally friendly and optimised use of plant protection products. It is geared towards nature-based control measures, and prioritises sustainable organic and other non-chemical methods.

The eight general principles of integrated pest management as set out in Annex III to Directive 2009/128/EC are shown in the diagram below.



Source: Blümel, adapted by Meissle et al. 2011 Pest. Manag. Science, 67

Decisions on the use of plant protection products are taken on the basis of the science-based monitoring and forecasts of the plant protection alert service and the exceedance of economic damage thresholds. The use of chemical-synthetic plant protection products takes into account their selectivity, efficient application technologies and compliance with anti-resistance strategies.

7.1.1. Principles of Integrated Pest Management

PRINCIPLES OF GOOD PLANT PROTECTION PRACTICE

According to the principles of integrated pest management, the use of plant protection products involves first of all giving careful consideration to all available plant protection methods and the subsequent integration of appropriate measures to discourage the development of populations of harmful organisms and keep the use of plant protection products and other forms of intervention to levels that are economically and ecologically justified and reduce or minimise risks to human health and the environment. In addition, integrated pest management requirements include, inter alia, the requirement that sustainable biological, physical and other non-chemical methods must be given priority over chemical methods if they provide satisfactory pest control. Overall, the use of plant protection products should be limited to what is necessary.

These principles are enshrined in the legislation of the Federal Government and the provinces setting out rules on the use of plant protection products. The relevant legislation covers in particular the measures implementing the EU Directive on the Sustainable Use of Pesticides (Directive 2009/128/EC), taking into account the general principles of integrated pest management, the principles of good plant protection practice and the application of the precautionary principle.

Provisions on good plant protection practice and integrated pest management are also contained in technical guidelines from the Austrian Working Group for Integrated Pest Management Austrian Working Group for Integrated Pest Management (ÖAIP) and funding guidelines, in addition to various legal provisions of the Federal Government, the provinces and municipalities (see point 5.1.6.) The above provisions are updated on an ongoing basis to take account of scientific and technical progress.

7.1.2. Organic production

Organic production means the use of production methods in accordance with the rules laid down in Regulation (EC) No 2018/848 at all stages of production, preparation and distribution.

In Austria, the agri-environmental programme (ÖPUL) encompasses the ‘Organic farming’ measure. The aim of the measure is to promote close-to-nature, environmentally sound and resource-efficient management of agricultural land. Participation in the measure enables farm nutrient cycles to be established and, as a result of the prescribed non-use of chemical-synthetic plant protection and mineral fertilisers, the associated material inputs to water bodies and groundwater are reduced.

In 2019, the IACS database recorded 24 225 organic holdings with an agricultural area of 668 725 hectares (including organic alpine pastures). The share of organic holdings in all IACS holdings thus increased to 22.1%. These holdings accounted for 26.1% of all agricultural land. The number of organic holdings increased by 747 holdings or 3% compared

to the previous year (2018). The highest proportion of organic holdings is found in Salzburg (49%), Vienna (27%) and Burgenland (26%). Especially in Lower Austria and Burgenland, organic land increased significantly due to the marked increase in organic arable land. (Source: Grüner Bericht 2020 [Green Report 2020])

7.1.3. Alert service

The online platform www.warndienst.at provides Austria with alert service models and decision-making support for users of plant protection products free of charge for 64 crop-specific pests in order to help them decide on targeted and needs-appropriate measures to promote integrated pest management. Important use-related information, such as wind and weather information, can be searched for on a site-specific basis to decide on the correct timing of use. In order to facilitate use of the platform and interpretation of the information, explainer videos were prepared by the relevant experts (see 5.1.2.)

The plant protection alert service, with its forecasting models and observations, provides the agricultural sector with an efficient and modern tool for the targeted use of plant protection measures and for the targeted reduction in the use of plant protection products, and is therefore a key tool in protecting human health, the environment and flora and fauna. In addition, the alert service contributes to reducing the exposure of agricultural products to toxic substances such as mycotoxins and qualitative losses caused by fungal infestations and damage caused by pests. Reducing the use of plant protection products is a major socio-political and economic obligation.

EU regulations require all farmers to take account of the principles of integrated pest management. An essential part of these principles is predictive monitoring and associated early detection of pests. Alert services and forecasting models therefore play a significant role in the context of compulsory integrated pest management.

The transfer of knowledge and provision of training, advice and information to farmers as regards the targeted and predictive control of harmful organisms constitute important information and training activities (see point 7.1.4.). Further information can also be found in the chapter ‘Reducing risks and quantitative use of plant protection products’ (points 5.1.2 and 5.1.3).

7.1.4. Crop/sector-specific guidelines

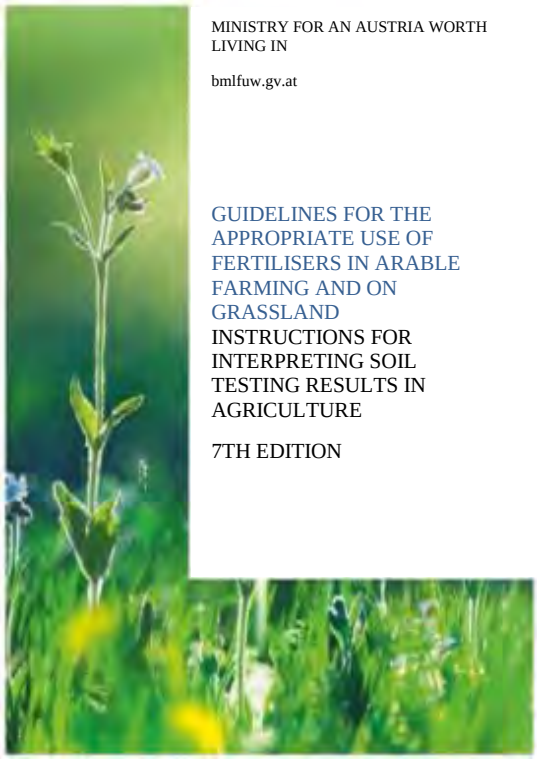
Crop- or sector-specific guidelines for integrated pest management are devised, further developed and applied on a voluntary basis. Public bodies and organisations representing certain professional users have developed crop and sector-specific guidelines.

Key:

Leitlinie für den integrierten Feldbau	Guidelines for integrated crop production
Leitlinie für den integrierten Weinbau	Guidelines for integrated viticulture
Mit ÖPUL-Maßnahmen 2015-2020	With ÖPUL measures 2015-2020
Stand, April 2016	Status as at April 2016

Coverage of the utilised agricultural area by crop-specific and sector-specific guidelines:

Areas under cultivation in Austria in 2019			
		for which there are crop-specific or sector-specific guidelines	
	ha	ha	%
Agricultural area	2 571 477		
Grassland area without alpine pastures	910 178	0	0
Arable land including field feed	1 325 484	1 244 984	94
Vegetables	13 008	0	0
Fruit	12 335	0	0
Wine	48 720	48 720	100



The guidelines for the appropriate use of fertilisers prepared by the *Fachbeirat für Bodenfruchtbarkeit und Bodenschutz* [Advisory Board for Soil Fertility and Soil Protection] take into account both the current state of scientific knowledge as well as developments in modern agriculture and, in particular, organic farming. This concerns, on the one hand, the updated crop yield and demand figures and, on the other hand, the assessment of the soil nutrient content and the calculation methods. The individual steps involved in drawing up a fertilisation plan will be presented separately in order to optimise the use of these guidelines in advisory and training facilities.

The chambers of agriculture and various organisations and clubs also provide extensive advice on the available methods of pest management and the environmentally friendly use and handling of plant protection products, and on non-chemical alternatives (see also point 2.1.2. for additional information).

7.1.5. Education and training

Compulsory education and training for professional users ensure intensive knowledge transfer and that the correct use of plant protection products is continuously being made safer and more effective.

Education and training programme content includes integrated crop management strategies and techniques, organic farming principles, biological pest control methods, information on the general principles of and crop- or sector-specific guidelines for integrated pest management. For further information: see Chapter 1.

7.1.6. The ÖPUL agri-environmental programme

A combination of compulsory and voluntary CAP instruments has also helped Austria steadily to move agricultural production towards greater sustainability. Compulsory crop rotation and the creation of ecological focus areas (EFAs) were enshrined in the legislation when the CAP was last reformed. In complement to the provisions of the first pillar of the CAP, various measures are available under the Austrian rural development programme, and in particular the Austrian agri-environmental programme (ÖPUL), which are intended to generate a high, environmentally effective added value. The ÖPUL measures focus above all on maintaining and strengthening biodiversity and thus also protecting beneficial organisms, such as pollinators. They are also intended to help maintain soil fertility, prevent erosion and protect surface waters and groundwater.

Federal Ministry of
Sustainability and Tourism

ÖPUL SPECIAL GUIDELINES 2015

SPECIAL GUIDELINES OF THE FEDERAL MINISTER FOR SUSTAINABILITY AND TOURISM

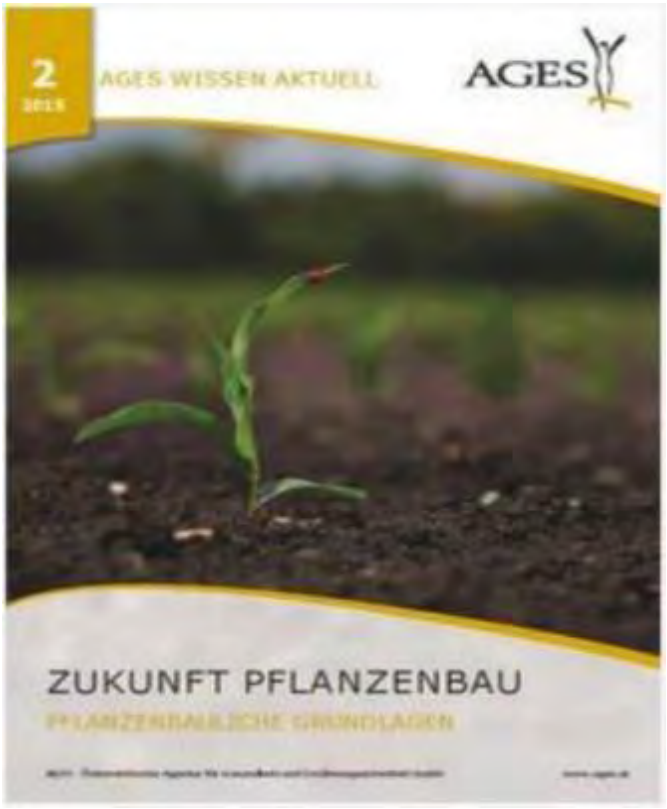
FOR THE AUSTRIAN PROGRAMME FOR THE PROMOTION OF ENVIRONMENTALLY FRIENDLY AND EXTENSIVE AGRICULTURE THAT PROTECTS NATURAL HABITATS (ÖPUL)

BMNT-LE.1.1.8/0002-II/3/2018
(Amendments BMLFUW-LE.1.1.8/0002-II/3/2017, BMLFUW-LE.1.1.8/0014-II/3/2016 and BMLFUW-LE.1.1.8/0089-II/3/2014)

LE 14-20
Rural Development

In the future too, the flanking measures for integrated pest management will be further developed through CAP measures. Advice and targeted information on integrated pest management will be further developed, and greater value will be attached in particular to the use of natural enemies. The current ÖPUL contains additional measures for crop rotation systems and variation (e.g. limiting the most common crops to 55% of arable land), as part of the ‘environmentally friendly and biodiversity-promoting management’ action plan, and these measures will be continued and further developed under the future programme. Insect pollinators are being attracted as a result of targeted support for the cultivation of flowering crops, such as St. John's Wort, camomile, milk thistle, marigolds and echinacea. Various measures to reduce or eliminate completely the use of synthetic chemical plant protection products are also being supported, e.g. the ÖPUL measures ‘Non-use of insecticides in viticulture’, ‘Limitation of yield-increasing inputs’, ‘Non-use of fungicides and growth regulators’, ‘Greening of arable land’ and ‘Organic farming’ (see also point 5.1.4. for additional information).

7.1.7. 'Future crop production' strategy process



Plant protection faces many challenges, such as climate change and security of supply, but also increasing environmental constraints. In 2014, the 'Future crop production' policy process was therefore launched in order to develop up-to-date solutions and to ensure the safety of farmers, consumers and the environment.

In a broad consultation process involving a wide range of stakeholders and relevant specialist groups, proposals for measures to address future issues were drawn up. Organisations representing agriculture, processing, trade, testing, interest groups, non-governmental organisations, industry and academia were represented. The results can be found at https://www.zukunft-pflanzenbau.at/home/.

In order to facilitate an exchange of expertise and opinions on a wide range of issues in the areas of crop production and crop protection, a 'Round Table' was set up within AGES which is held regularly to deal with the latest issues and involves all relevant stakeholders.

7.1.8. Research

Research is central to the further development of integrated crop management in all fields. The R&D programme of the BMLRT has a special focus on crop production. Research projects focusing on plant protection are also promoted in cooperation between the federal and provincial authorities (Bund-Bundesländerkooperation (BBK)). However, a great deal of know-how is also available outside research establishments - from associations, clubs and farmers, for example.

Examples:

R&D programme of the BMLRT 2020 – 2025
https://www.bmlrt.gv.at/land/land-bbf/Forschung/programm-fuer-forschung-und-entwicklung-adaptiert.html

ELATPRO
https://www.ages.at/themen/landwirtschaft/pflanzengesundheit/forschung/projekt-elatpro/

BIOAWARE
https://www.uibk.ac.at/ecology/forschung/applied-and-trophic-ecology/projects/bioaware.html

FF-IPM
https://www.ages.at/themen/landwirtschaft/pflanzengesundheit/forschungwissenschaft/projekt-ff-ipm/

IPMDROS (Euphresco)
https://zenodo.org/record/1116940#.X7PSHecxmF5

ERANET SusCrop
https://www.suscrop.eu/

7.1.9. Official controls on professional users

Plant protection products may be used only as intended and in the proper manner, in accordance with the principles of good plant protection practice and the precautionary principle. In addition, the general principles of integrated pest management set out in Annex III to Directive 2009/128/EC are to be applied.

In accordance with the division of powers at national level, the competent federal or provincial authority and its control bodies are responsible for monitoring the use of plant protection products. In addition, Agrarmarkt Austria (AMA) carries out use checks in connection with the implementation of the first and second pillars of the CAP.

The on-the-spot checks are unannounced. The specific sample is selected randomly according to a risk-based sampling plan and as part of follow-up checks on previous infringements found. The provinces have an inspection guide for the inspection. During the inspection, the individual points are verified using a checklist.

7.2. Quantitative objectives, targets and timetables

Objectives	Target	Attainment
1. Share of organic area in total utilised agricultural area	≥ 25%	2026
2. Areas on which plant protection products are not used or their use is severely restricted (excluding organically farmed areas)	30%	2026
3. Increase in the number of hits on the alert service platform of the Austrian Chamber of Agriculture	15% increase in the number of hits compared to 2019	2026
4. Alert service application software for mobile devices/mobile operating systems (app)	100%	2026
5. Increase in the availability of forecasting models and monitoring (alert service)	to be offered if accuracy (> 80%) is satisfactory.	2026
6. Extended sector-specific guidelines	+ 5%	2026

Objectives	Target	Attainment
7. Updated sector-specific guidelines	100%	2026
8. The existence of audit instructions for systematic monitoring of the application of the eight principles of integrated pest management and their implementation in the context of controls on use.	100%	mid-2022
9. Participation in H2020 Cofund Action ERA-Net on Sustainable Crop Production – 'SusCrop'		ongoing until the end of the project (2023/24)
10. Alternative methods to chemical plant protection (research, technology and innovation)	on a needs-based and ad hoc basis; continuation of ongoing projects	ongoing
11. Availability of climate-friendly varieties	10 varieties to be authorised	annually
12. Regular technical exchanges on current crop issues ('round table')	at least 2x	annually

7.3. Measures

Re Objective 1:

The purpose of participation in the 'Organic farming' measure of the agri-environmental programme (ÖPUL) is to maintain the share of organically farmed land in total agricultural land at the same level until 2026 and, if possible, to increase it.

This national measure is also linked to the EU Farm to Fork Strategy, which calls for at least 25% of agricultural land in the European Union to be under organic farming by 2030.

Re Objective 2:

Areas on which plant protection products are not used or their use is severely restricted include alpine pastures, mountain pastures, biodiversity and nature conservation areas, areas where it has been decided not to use certain types of plant protection products (such as herbicides and insecticides) and areas where the application of plant protection products is prohibited (grassland).

The target of 2.67 million hectares of total utilised agricultural area (2016 Farm Structure Survey) is to be achieved through participation in measures of the agri-environment programme.

Re Objectives 3 to 5:

The continuous development of the Austrian alert service is a key tool for the targeted implementation of the principles of integrated pest management. The forecasting models and monitoring enable the targeted use of plant protection measures and reduce the use of plant protection products.

An online survey '*Bewerten Sie uns*' ['evaluate us'] carried out in 2020 (237 participants across Austria) evaluated satisfaction with the current offers (qualitative and quantitative). According to the survey results, forecasting models and monitoring directly influence operational decisions regarding the use of plant protection products. The same survey also provided an indication of the need for further development of the alert service platform. On the one hand, the availability of further practical forecasts and monitoring should be stepped up under appropriate budgetary conditions. On the other hand, the survey also showed that 44% of users use the alert service via mobile devices. Although the offer can be fully accessed via mobile devices, the aim is to develop an app.

The services offered (forecast models and monitoring) will be made available according to needs, availability and available budget. In some crops, there is a specific need for the development and provision of forecasting models or monitoring (as can be seen in the table below).

Crop	**Pest*)**
Cereals	Fusarium head blight, mycotoxins, aphids, viroses
Maize/corn	Maize fusariosis, mycotoxins, corn borers, corn rootworm, wireworms
Sugar beet	Major leaf diseases and pests
Potato	Wireworms, Alternaria, Stolbur
Rapeseed	Rapeseed pests, Sclerotinia
Soybean	Sclerotinia, other major diseases
Hops	Downy mildew
Fruit	Relevant pests and diseases
Wine	Frost and drought models, relevant pests
Vegetables	Diseases and pests (such as mildew, wilt diseases, aphids, thrips, mites, etc.)

*) Overview of the already available forecasting models and monitoring at www.warndienst.at.

Efforts are also being made to provide users with specific offers so that they can choose a customised offer. With the help of factors such as rotation, variety, tillage and pest selection, the user should be able to calculate a forecast on a plot-specific basis. The monitoring data will also be used in the calculation in order to improve the accuracy of the forecasts.

These measures are intended to increase the implementation of the plant protection alert service in practice and help reduce the use of plant protection products. This will also lead to an increase in the number of hits.

Re Objectives 6 and 7

Public bodies and organisations representing certain professional users may draw up appropriate guidelines and are responsible for ensuring that such guidelines reflect the state of scientific and technical knowledge.

The graph ‘Coverage of utilised agricultural area through crop-specific and sector-specific guidelines’ (see page 58) has identified a coverage rate that helps determine the crops or specific sectors for which guidelines might be useful.

Re Objective 8:

Preparation of a template for a test manual and checklist for systematic monitoring of the application of the principles of integrated pest management (Annex III to Directive 2009/128/EC) and its alignment and coordination among all the authorities and bodies responsible for or entrusted with carrying out controls on the use of plant protection products (Federal Government, provinces, AMA) in order to ensure uniform implementation. These templates should be used as part of the controls on use.

Re Objective 9:

The objective of the SusCrop ERA-NET is the transnational coordination of participating countries’ research programmes to improve the sustainability and resilience of crop production in the European Union by carrying out joint EU-funded European research projects. The focus is on the development of methodologies to assess the sustainability of plant production systems, the harmonisation of assessment criteria for them, as well as research into innovative integrated pest management (IPM) and systemic crop production strategies, and the testing of the concepts developed at experimental sites. As a result of contributing to plugging the gaps in agricultural research related to sustainable crop production, the information gained can also be used in a timely manner for the national research programme and for participation in related research calls and projects.

Re Objective 10:

The current R&D programme of the BMLRT includes support for the development and testing of alternatives to chemical plant protection. Many research and innovation projects are already being commissioned as part of departmental research.

In the future, priority will continue to be given to projects aimed at developing alternatives to traditional chemical-synthetic plant protection products.

Re Objective 11:

The common and key objective is to develop climate-friendly varieties for Austria, paying particular attention to drought and heat tolerance, to adapt them to evolving climate change and regional needs, and to ensure crop diversity in the interests of sustainable management.

An important objective is to improve disease resistance. A wide range of harmful organisms will benefit in the future from the changed climate and could become more widespread.

The measures under the ‘KLIMAFIT’ project will increase the long-term yield certainty in Austrian arable farming. In addition, the work within this project generates important genetic sources for future, sustainable breeding work in Austria in the context of the competing pressures of climate change and the yield and quality requirements of modern varieties.

Re Objective 12:

Under the motto 'Wissen.schafft.Dialog' ('Knowledge creates dialogue'), AGES, on behalf of the BMLRT, is in constant dialogue with all stakeholders involved in the 'Future crop production' strategy process. 'Round tables' addressing current crop-production issues are held periodically. The further development of integrated pest management is an essential part of the 10-point programme of the 'Future crop production' strategy process.

Re Objective 13:

ÖAIP awards a quality label to plant protection equipment that meets high technical quality criteria in terms of its technical features and function. The added value results from extra technical features, as opposed to mandatory minimum specifications for plant protection equipment and defined minimum levels for selected technical characteristics. This will greatly promote environmental protection, user protection and resistance management. One specific technical feature is, for example, the mandatory fitting of plant protection equipment bearing the ÖAIP quality label with nozzles that reduce drift and, in addition, an adapted edge nozzle. This allows inputs to non-target areas to be reduced.

In order to decide on the award of quality labels, a manufacturer's new equipment undergoes a type test which is carried out by the Mold training workshop and the 'Fach Technik e.V.' association. These two bodies also act as inspection bodies for the inspection of plant protection equipment in implementation of Directive 2009/128/EC and use only state-of-the-art testing facilities (see Chapter 3).

Applications for the ÖAIP quality label for type testing of plant protection equipment are made on a voluntary basis by equipment manufacturers.

The ÖAIP quality label is intended to raise the technical standard of new equipment. It is possible - and indeed recommended - for equipment to exceed the ÖAIP requirements. To this end, it is necessary to encourage as many manufacturers as possible to make active use of the ÖAIP quality label. Work on the criteria, efforts to involve further equipment manufacturers and an expansion of the scheme to include other types of plant protection equipment are ongoing (www.oeaip.at/fachinformation/geraetetechnik/).

8. Risk indicators

Risk indicators are the result of a calculation method used to assess the risks of plant protection products to human health and/or the environment.

8.1. Background

Directive (EU) 2019/782 establishes for the first time harmonised risk indicators within the European Union and thus contributes to further implementing the objectives of Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides.

8.1.1. Harmonised risk indicators

8.1.1.1. Harmonised risk indicator 1 (HRI 1)

The starting point for the calculation of HRI 1 is the annual sales volumes of active substances in plant protection products within Austria. These are multiplied by the respective weighting of the active substance.

The active substances were divided into four groups and the following factors assigned to them:

- for low-risk active substances, a factor of 1;
- for active substances without critical properties, a factor of 8;
- for candidates for substitution, a factor of 16; and
- for non-approved active substances, a factor of 64.

The reference value for this indicator is 100, which corresponds to the average result for the years 2011 to 2013.

Harmonised risk indicator 1

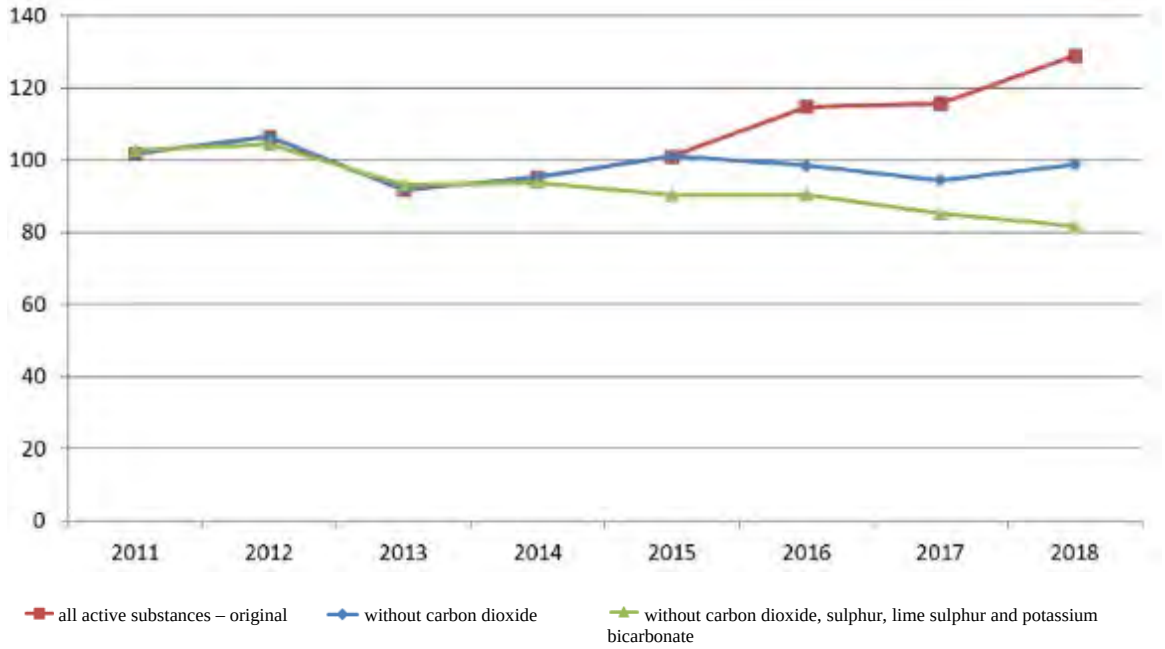
The graph shows the evolution of Harmonised Risk Indicator 1 in Austria from 2011 to 2018. Base level 100 corresponds to the average for the years 2011 to 2013 (see vertical axis).

In recent years, HRI 1 has increased in Austria. This is largely a result of the inclusion of inert gases (such as carbon dioxide) in the statistics. These have been included in the calculation of HRI 1 in Austria only since 2016. The high application rates resulting from the application characteristics have led to a significant increase in HRI 1 since 2016 in the field of application of inert gases, primarily for storage treatment.

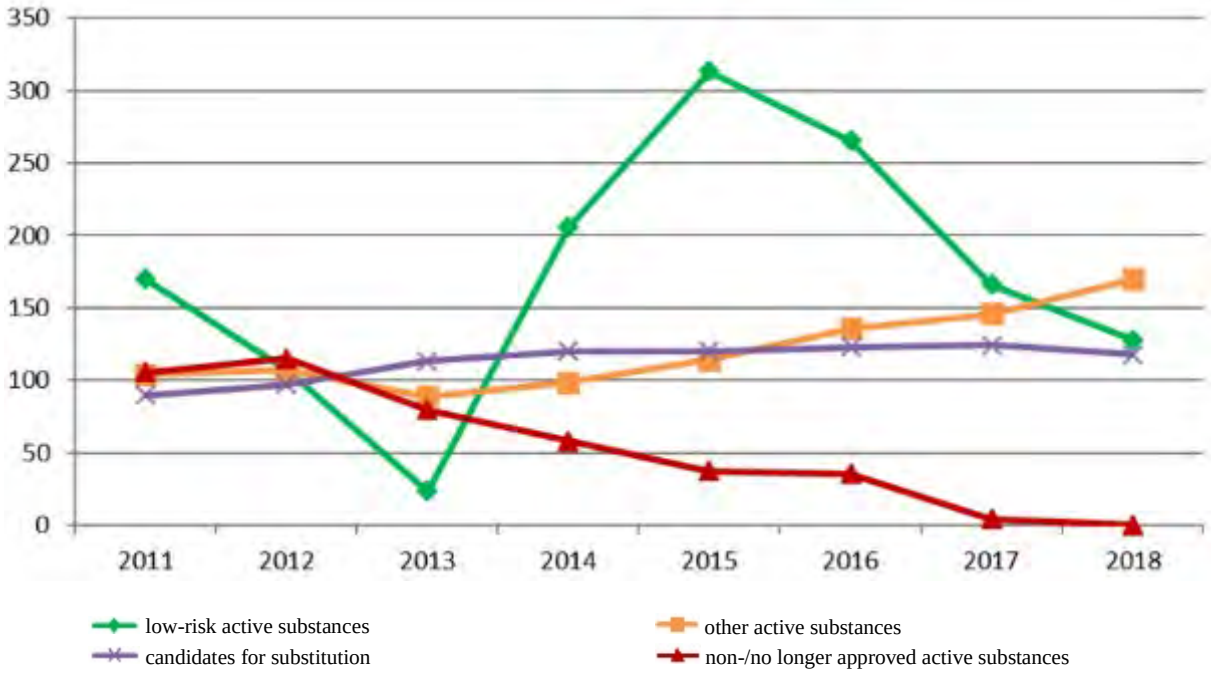
In 2018, a total of 1 340 tonnes of inert gases were placed on the market in Austria, representing about 25% of the total amount of active substances placed on the market.

Another factor in the increase in HRI 1 in Austria is the increased use of plant protection products containing active substances with a high active substance application rate per hectare. For example, the application rate for sulphur and copper is several kilograms per hectare, while for potassium hydrogen carbonate and lime sulphur it ranges from 30 to 55 kg of active substance per hectare. By comparison, the usual application rate of the active substance in plant protection products per hectare is significantly lower. As a general rule, the amount of the active substance applied ranges from a few grams to a few kilograms.

Harmonised Risk Indicator 1, Influence of individual active substances



The graph shows the impact of individual active substances placed on the market in particularly high quantities on HRI 1.

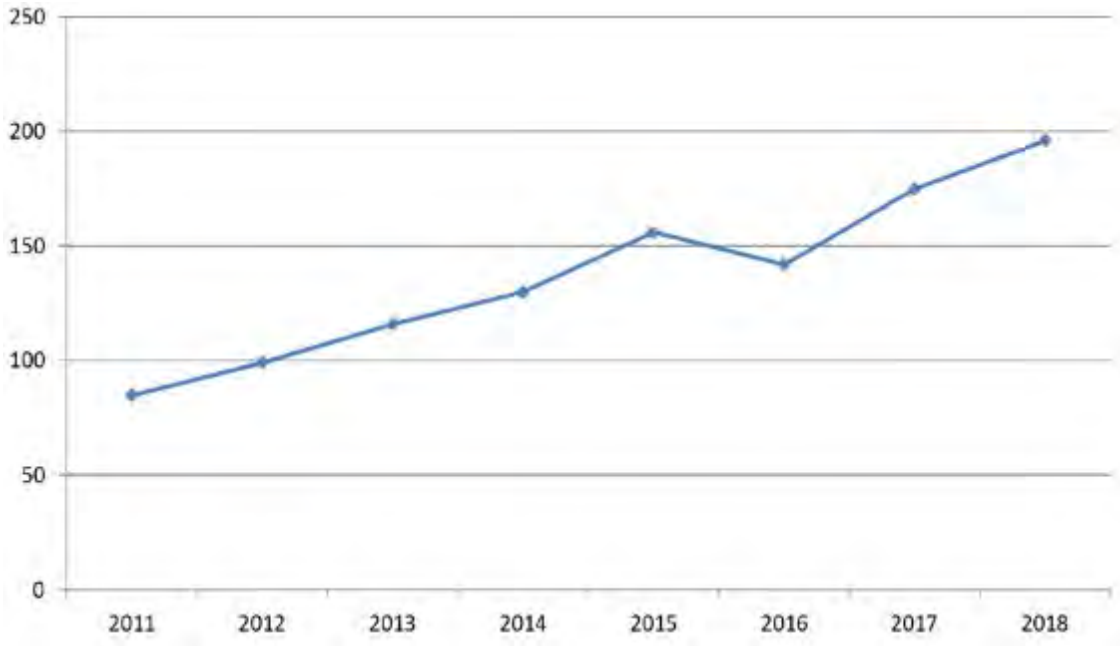


The graph shows the evolution of HRI 1 by group of active substances. The index value for low-risk active substances varies greatly, as only a few active substances are currently classified in this group (10 active substances in 2018). However, as the sales volumes of active substances are weighted by a factor of 1, their impact on the overall indicator is limited.

8.1.1.2. Harmonised risk indicator 2 (HRI 2)

HRI 2 is based on the number of emergency authorisations granted. The active substances are weighted in the same way as for HRI 1. Similarly, the reference value of 100 is set as the average of the period from 2011 to 2013 (vertical axis).

Harmonised Risk Indicator 2:



HRI 2 has increased in Austria in recent years (see graph above). One of the reasons for this was the emergence of 'gap indications' in the case of regular authorisations, which are particularly relevant for minor uses under Article 51 of Regulation (EC) No 1107/2009. Another reason was the low number of newly approved active substances and the increased presence of pests owing to the weather.

Emergency authorisations also play an important role in organic cultivation in Austria. For example, 40% of the emergency authorisations issued in 2018 could also be used in organic cultivation.

8.1.2. Plant protection products containing low-risk active substances

Where a plant protection product contains only low-risk active substances as referred to in Article 22 of Regulation (EC) No 1107/2009 and the risk assessment does not require specific risk mitigation measures, that plant protection product is authorised as a low-risk plant protection product. In the Austrian Plant Protection Product Register, low-risk plant protection products can be retrieved using a predefined search query.

For the calculation of HRI 1 and HRI 2, a factor of 1 is applied to the quantities of low-risk active substances.

8.1.3. Candidates for substitution

Regulation No 1107/2009 concerning the placing of plant protection products on the market lays down criteria as to when an active substance is to be considered a candidate for substitution on the basis of its properties. A factor of 16 is applied to active substances identified as candidates for substitution in the calculation of HRI 1 and HRI 2.

Where an active substance is considered a candidate for substitution, the approval of the active substance is limited to a maximum of 7 years. Renewal of approval is also limited to a maximum of 7 years. In addition, the authorisation of plant protection products containing active substances which are candidates for substitution is subject to a comparative assessment.

8.2. Quantitative objectives, targets and timetables

Objectives	Target	Attainment
1. Increase the use of plant protection products containing low-risk active substances	15%*)	2026
2. Reduce the use of plant protection products containing candidates for substitution as their active substance	10%*)	2026
3. Describe the current significance of plant protection products containing active substances which are candidates for substitution	100%	End of 2023

Objectives	Target	Attainment
4. Provide an overview of the possibilities for reducing the use of plant protection products containing candidates for substitution as active substances by other plant protection products and/or other plant protection measures	100%	End of 2023

*) The basis for calculating the target is HRI 1. The baseline of 100 is calculated as the average of the years 2015, 2016 and 2017.

8.3. Measures

Re Objective 1:

The use of plant protection products containing low-risk active substances is to be increased. In order to implement the requirements of integrated pest management, non-chemical methods in particular should also be stepped up. With a view to reducing the use of plant protection products, more emphasis will be placed on integrated pest management in the context of education, training and further training. Many integrated pest management measures (crop rotation, optimised fertilisation strategies, variety selection, alert services, etc.) are already successfully applied in practice in order to reduce the use of plant protection products. In the future, the focus on training will have to be further shifted towards integrated pest management in order to exploit existing reduction potential. This includes advice on the use of low-risk plant protection products. In order to translate the necessary know-how into practice, this topic will be addressed in greater detail in the initial and further training courses and additional advice offered.

Re Objective 2:

The use of plant protection products containing active substances classified as candidates for substitution is to be reduced. In order to implement the requirements of integrated pest management, efforts to use non-chemical methods in particular should be stepped up. A project to reduce the use of plant protection products containing candidates for substitution is currently under preparation.

Re Objective 3:

As part of a project currently under preparation, the importance of the active substances with a higher risk for agriculture will be assessed on the basis of the quantities of active substances placed on the market, the area treated and the use in individual crops. The results will be presented in tabular form.

Re Objective 4:

As part of a project currently under preparation, the active substances are evaluated with regard to their substitutability on the basis of the authorisation situation. Checks are carried out to determine whether other plant protection products are authorised for each indication (combination of crop and pests). The results will be presented in tabular form.

If further plant protection products are authorised for the indication in question, then the effectiveness, conditions of use, practicability and resistance of the alternative plant protection

product are assessed in detail. Test results and relevant publications on effectiveness and resistance behaviour are taken into account where available. Non-chemical methods (such as rotation, variety selection and tillage) are assessed and considered.

A panel of experts discusses the alternatives developed (i.e. other plant protection products and/or plant protection measures) for selected active substances.

The aim of this panel of experts is to assess the practical feasibility of the alternatives developed and to promote their inclusion in the advice offered and their use in practice.

8.4. General indicators

Integrated pest management	
Indicator	**Description**
Participation in agri-environmental programme (ÖPUL)	The agri-environmental programme helps support the environmentally friendly management of agricultural land.
Participation in the 'Organic farming' measure	Austria has attached considerable value to the promotion of organic farming since the beginning of the 1990s. The proportion of agricultural land given over to organic farming is to be surveyed and published.
Participation in the 'Environmentally friendly and biodiversity-promoting management' measure	Retention of landscape features, maintenance of grassland, at least 7% biodiversity areas, crop rotation, maximum of 55% of a single crop, training.
Participation in the 'Non-use of insecticides in wine, fruit and hop growing' measure	Foregoing the use of insecticides can reduce the use of plant protection products on crops that are treatment intensive.
Participation in the 'Non-use of herbicides in wine, fruit and hop growing' measure	Foregoing the use of herbicides can reduce the use of plant protection products on crops that are treatment intensive.
Participation in the 'Limitation of yield-increasing inputs' measure	Foregoing the use of plant protection products on grassland and land under fodder crops, except for organic products, foregoing the spreading of nitrogen fertilisers, except for organic fertilisers.
Participation in the 'Greening of arable land' measure	Foregoing the use of nitrogen fertilisers and plant protection products in revegetation.
Number of hits on the plant protection alert service website: www.warndienst.at	The independent national alert service will allow plant protection products to be used in an optimal manner and at exactly the right time.

Integrated pest management	
Indicator	**Description**
Treatment frequency index	The treatment index describes the number of plant protection products used in relation to the authorised application rate and the area treated. It reflects the intensity of the use of plant protection products much better than other measures, such as the quantity of active substances per hectare or the area treated.
Plant protection equipment	The number of accredited types of drift-reducing and dust-drift-reducing plant protection equipment is being surveyed.

Water protection	
Indicator	**Description**
Surface water	For selected plant protection products, the Quality targets (chemicals in surface waters) Regulation (QZV Chemie OG) sets environmental quality standards (EQS) for surface waters at European and Austrian levels. This indicator describes the pollution of surface waters by plant protection products for which breaches of the EQS can be established (the bodies of water in question thus do not have a good chemical status (plant protection products that are governed at EU level) or a good ecological status (products governed at Austrian level)).
Groundwater/drinking water	This indicator describes the pollution of selected groundwater bodies by PPP active substances for which concentrations above the groundwater threshold are established (as a rule 0.1 µg/l; see Quality targets (chemicals in surface waters) Regulation or BMGF orders on non-relevant metabolites). If the groundwater threshold is exceeded at more than 30% or more than 50% of the sampling points of a body of groundwater, that body of water is designated as an observation zone (>30%) or as a prospective action zone (>50%). The groundwater in a prospective action zone is not considered to have a good chemical status.

Consumers and public health	
Indicator	**Description**
Number of maximum residue level breaches	This indicator shows the proportion of tested samples that exceed the permissible maximum levels for plant protection product residues pursuant to Regulation (EC) No 396/2005 in all food product groups examined using data that are representative for the Austrian market collected annually as part of the control programme.
Suspected cases of poisoning among professional users	Survey of suspected cases of poisoning caused by plant protection products.

Information, training and awareness-raising	
Indicator	**Description**
Certificates issued pursuant to Article 5 of Directive 2009/128/EC	Number of certificates issued to professional users, distributors and advisors.
Advice available	Hours of advice provided under a contract between the BMLRT and the chambers of agriculture on pest management.
Quantities of active substance placed on the market	Trends in the quantity of active substances placed on the market each year are recorded (Green Report).
Study on agricultural use of plant protection products	Data on the use of plant protection products in agriculture is to be collected for a five-year period in accordance with Regulation (EC) No 1185/2009.

Innovation, research and development	
Indicator	**Description**
Research expenditure in the field of integrated pest management	Research is crucial across the board to the sustainable use of plant protection products. It is to be evaluated via DaFNE (*Datenbank für Forschung zur Nachhaltigen Entwicklung*) [Database for Research for Sustainable Development].
Expenditure in support of innovation in the field of integrated pest management	Farmers, advisors, researchers, undertakings, NGOs and other stakeholders work together through EIP-AGRI on innovations in agriculture and forestry.

The indicators described are to be used to monitor the progress of the National Action Plan and verify the attainment of its objectives. Most of the indicators were compiled on the basis of currently available data. The newly established Harmonised Risk Indicators reflect

developments in the placing on the market of, in particular, low-risk active substances and active substances classified as candidates for substitution.

~~~~~~~~~~~~~~~~~~~~~~
~~~~~~~~~~~~~~~~~~~~~~