



Federal Ministry  
of Food  
and Agriculture

# Going peat-free, protecting the climate

The Peat Use Reduction Strategy of the Federal Ministry of Food and Agriculture







## Dear Readers,

Global warming is having a dramatic impact on our ecosystems and our farms. Our future will depend on whether we will be successful in reducing CO<sub>2</sub> emissions and sequestering carbon. Peatlands have a central role to play in this regard.

Although covering only three percent of the global land area, peatlands store more carbon than all forests on earth together. Therefore, there is little doubt that we need to protect our peatlands. This is precisely the objective our Peat Use Reduction Strategy pursues.

We want to reduce the use of peat in the commercial horticultural sector as far as possible by 2030. In the hobby sector, the aim is to eliminate all use of peat by 2026. We thus support the national peatland strategy aiming at the long-term phasing out of peat use in horticulture. The time schedule is in line with the provisions of the 2030 Climate Action Programme.

When reducing the consumption of peat, we need substitutes. Therefore, the development of alternatives is a central aspect of the Peat Use Reduction Strategy. We are promoting projects across Germany that provide major support to farms converting to peat-reduced substrates. We are also establishing specialised service points providing individual consultations during the entire conversion period.

All of this is designed to preserve our natural resource base and to safeguard our future. This is why we are resolutely driving peat reduction and protecting our peatlands.

**Cem Özdemir**

*Federal Minister of Food and Agriculture*

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# 1

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The current situation

## 1.1 The climate impact of peat use

Peatlands are the most important long-term carbon sinks of the terrestrial biosphere. They only cover roughly 3 % of the Earth's surface and yet they store 21–33% of all organic carbon worldwide. Drainage and the extraction of peat, which is then used as a potting soil, growing medium and means of soil improvement, leads to the carbon sequestered by peat soil being released as CO<sub>2</sub>. The emissions caused by peat extraction include emissions from the drained extraction areas as well as from the mineralisation of the extracted peat. These CO<sub>2</sub> emissions are included in greenhouse gas reporting and they are accounted to the country where the peat is extracted.

Peat decomposes much faster after extraction than if peatlands are drained and the peat soil is then used for agricultural or forestry purposes. This is why, when considered over the period until the end of this century, which is relevant for climate policy, the climate impact of peat extraction and peat use is a lot more negative than other uses of peat soils, even if the areas where peat is extracted are rewetted..

## 1.2 Peat extraction in Germany

The Federal Government of Germany has addressed the conservation of the endangered peatland biosphere by protecting selected peatland biotope types by law in Article 30 (2) of the Act on Nature Conservation and Landscape Management. Additionally, typical peatland species and habitats are protected by EU law (Habitats Directive, Birds Directive). The federal states of Germany have designated Natura 2000 sites for this purpose. Other peatland areas have been placed under a national protection regime. In accordance with the Basic Law for the Federal Republic of Germany, the implementation of peatland protection measures is predominantly the responsibility of the federal states. The federal states with significant peatland areas have established additional peatland protection programmes.

Approval for the extraction of peat is granted in accordance with federal state law. The Federal Government has no separate legal means to limit peat extraction. In Germany, peat is extracted mainly in the federal states of Lower Saxony, Mecklenburg-Western Pomerania, Schleswig-Holstein, Bavaria and Baden-Württemberg. Peat is currently extracted in Germany by more than 25 companies and corporate groups. The number of individual peat extraction sites is, however, higher and the amount extracted may vary significantly between different sites and years.

There are no official statistics on peat extraction in Germany. Due to expiring extraction permits, the peat industry expects most peat extraction in Germany to come to an end by 2040.

In order to reduce emissions from peat use, it is insufficient to address peat extraction in Germany alone: large amounts of peat are already being imported for the growing media industry from other countries of the European Union. In contrast to Germany, where peat may only be extracted from agriculturally used and drained areas, peat in other EU countries is extracted mostly from natural peatlands – a practice that is associated with considerable impact on biodiversity and climate. This is why any peat conservation strategy must focus on replacing peat as a potting soil, growing medium and means of soil improvement.

## 1.3 Substitutes and substrates

Up until the 1950s, gardeners used mixtures of organic waste, leaf or needle compost and mineral soils for their plants. With the search for widely available, standardised and growth-promoting substances, the 1950s saw the simultaneous development of “Einheitserde” (a standardised growing medium with a high peat content) and other peat growing media. Peat has been the most widely used substrate component ever since. It has several physical, chemical and biological properties that are beneficial to plant growth: it has a high void volume, high water retention capacity and sufficient air capacity; it also has a low pH value, is low in nutrients and its nitrogen immobilisation and slumping are negligible. This means that it can be adjusted at will and its level of fertilisation adapted to the crops. In addition, peat has to date been an inexpensive raw material that has been available in sufficient quantities. Alternative gardening substrates that serve plants as root space instead of peat are usually a mixture of various raw materials. Depending on the plant species and variety as well as the application, requirements from the substrate may be extremely diverse. By mixing different raw materials, the properties of the substrate can be improved and adapted to the requirements of the relevant plant. The substrate properties, in turn, influence plant management such as fertilisation and irrigation.

There are basically a large range of substitutes for peat available for horticulture. These substances have been researched intensively for more than 30 years. This means that there is a large knowledge base readily available, particularly for frequently used alternative substrates. Most organic raw materials that are currently used to any notable extent originate from the maintenance and use of regional green spaces and forests or are by-products from the wood-processing industry. Notable substances include bark (bark compost), compost and coniferous wood (wood fibres). Coconut products (coir, chips, pith) are a by-product of the cultivation of coconut palms and are imported from tropical countries.

Processed and unprocessed substances of natural origin can also be used as raw materials. These include rock-wool, clay, perlite, expanded clay, vermiculite, lava rock, sand and xylitol. With the exception of certain cultivation methods in which they are used as the sole medium, inorganic materials frequently serve as additives to substrates with a high proportion of organic raw materials. They improve, for example, water capacity, wettability and cation exchange capacity.

Renewable resources such as miscanthus grass or sphagnum mosses can in principle also be used as alternative raw materials. These do not currently have any significance on the market but could, if the demand developed, be produced in larger quantities. Attempts at using miscanthus grass as a growing medium have so far been promising. Peat consists primarily of dead sphagnum mosses. Sphagnum moss species can be cultivated in the form of paludiculture on rewetted, previously agriculturally used areas or on areas where peat has been extracted. Practical tests on the cultivation of sphagnum mosses as renewable resources to replace raised bog peat in horticulture were initiated in Germany in 2004. The net production area under sphagnum moss cultivation currently amounts to roughly 20 ha. The cultivation of sphagnum mosses is still being developed and currently still takes a great deal of effort, making this product relatively expensive. Irrespective of this, sphagnum is viewed as an ideal substitute for white peat as it has comparable physical and chemical properties. In order to substitute the annual demand for approximately 3 million m<sup>3</sup> of white peat, a net sphagnum moss production area of roughly 35,000–40,000 ha would be needed. To what extent sphagnum mosses can also replace black peat remains to be investigated. The area needed would then increase correspondingly.



## REQUIREMENTS TO BE MET BY PEAT SUBSTITUTES:

Ideally, peat-free substrates should have the following properties:

### In general:

- Sufficient availability at appropriate market prices
- Consistent quality and storability
- Sustainable production that pays particular regard to environmental and social aspects
- Low competition with other uses, particularly material uses
- Low land use during production
- Use of residual and waste materials as well as by-products wherever possible
- Use of regional material flows and reuse in a closed substance cycle wherever possible
- Safe disposal

### Chemical:

- High buffer capacity for optimal pH values
- Low salinity
- No harmful substances or contaminants

### Physical:

- Good structural stability
- Low weight by volume
- High void volume
- High air capacity, while also having a relatively high water retention capacity

### Biological:

- Free from growth-inhibiting substances
- Free from weeds
- Free from human and plant pathogens
- Free from quarantine pests and phytopathogenic nematodes
- No N immobilisation

There is no detailed information available on the presence and persistence of human pathogenic bacteria in peat substitutes, substrates and plants. Sound experimental data would need to be collected to close this information gap.

## 1.4 Sustainability and certification of substitutes

To reduce the peat use in practice quickly and successfully, sufficient quantities of high-quality raw materials must be available as peat substitutes. This is why the Federal Government is funding the development of substitutes. Investments for sufficient production capacities, however, must be made by industry.

Suitable materials should be selected based on social and environmental criteria as well as on economic criteria. Social and environmental criteria include working conditions during production and the environmental impact caused by the production and the transport of the raw materials. Compliance with such criteria can only be ensured through suitable certification systems, particularly when peat and peat substitutes are imported from non-EU states. A number of life cycle assessment studies show that peat substitutes cause significantly fewer greenhouse gas emissions than peat. Each of the available life cycle assessment studies of peat make different assumptions regarding the emissions caused at various stages of the peat exploitation chain, so their comparability is limited. In addition, these studies insufficiently reflect German circumstances regarding

substrate production and the use of peat substitutes. The Federal Ministry of Food and Agriculture (BMEL) has therefore commissioned the development of an internationally applicable, unified certification system for peat substitutes, which covers both the relevant sustainability criteria and the greenhouse gas emissions along the entire value chain.

The actual availability of substitutes in Germany is of considerable significance. In principle, alternative substrates such as wood products, composts and, to an increasing degree, fermentation residues are currently available in sufficient quantities in Germany. In order to implement the strategy, issues such as competing uses, price, sustainability and the viability of transport routes must be solved in the years to come.

Paludicultures can, through the rewetting and commercial exploitation of peatlands, provide an opportunity to achieve a positive climate impact: due to the rewetting of the peatlands themselves and due to the production of peat substitutes and other renewable raw materials that replace fossil resources.



## 1.5 Current quantities in substrate production

The substrate industry is already working on replacing peat. According to a survey by Industrieverband Garten (IVG) e.V., the German industrial horticulture association, Germany currently produces approximately 11-12 million m<sup>3</sup> of substrate each year. In 2021, alternative products already made up 4 million m<sup>3</sup> of this (Table 1). This means that, on the German market, alternative raw materials accounted for approximately 22 % of growing media for commercial horticulture and up to 52 % of potting soil for hobby gardeners. The percentages of raw materials on the German market is shown in figures 1, broken down into growing media in commercial horticulture and potting soil in hobby gardening (source: Industrieverband Garten e.V.

→ <https://www.erden-substrate.info>).

The production value of all substrates produced in Germany in 2020 amounted to approximately 250 million euros (Destatis). In 2021, peat exports amounted to approximately 1.72 million tonnes and peat imports to approximately 1.35 million tonnes (Destatis). However, it must be added that there are significant weaknesses in the production statistics regarding the use of peat: the statistics only include companies with up to 20 members of staff and do not therefore, cover all companies. The precise percentage of peat in the quantities of substrate recorded is not known, as only substrates containing over 75 % peat are included.

Table 1: Use of alternative raw materials in Germany in 2021\*

Raw material	Amount in m <sup>3</sup> /a
Green compost	approx. 1,600,000
Wood fibre/wood	approx. 1,400,000
Bark compost	approx. 315,000
Coconut products	approx. 240,000
Clay	approx. 140,000
Perlite	approx. 120,000
Pine bark	approx. 35,000

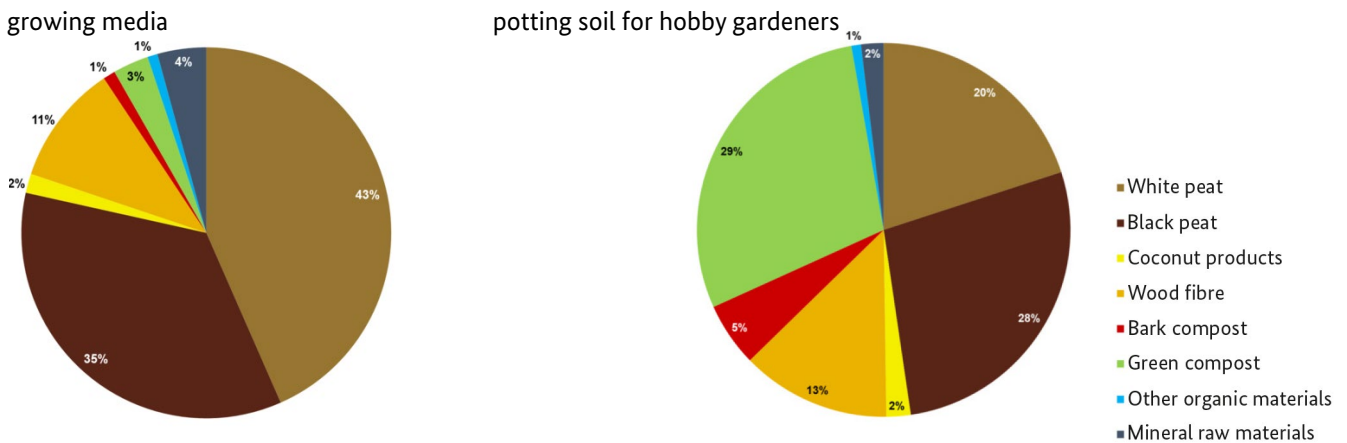


Figure 1: Percentages of raw materials on the German market

## 1.6 Peat alternatives and the impact of phasing out peat on individual horticulture sectors

Peat has only been used to a significant extent in horticultural production since the 1950s. Thanks to its great variability, which can be actively configured, and its mechanical manageability in today's predominantly large-scale plant-production systems, the impact of substituting peat goes far beyond its original function as a beneficial root space for cultivated plants.

According to the results of talks with representatives of the sector, there is potential for reducing the use of peat in horticulture. The options to reduce peat use are assessed differently by the different horticultural sectors:

- With regard to private use, the complete replacement of peat in potting soils is possible if sufficient substitutes of appropriate quality are available.
- The gardening and landscaping sector has already called on its member companies to avoid using peat. This presents a major challenge, especially for companies that produce natural sports turfs.
- In the soft-fruit sector, it would be possible in the medium term to reduce the percentage of peat in growing media to 30–50 % if appropriate efforts were made. The trend towards expanding covered soft-fruit production, however, runs counter to this.
- According to many experiments that have already been conducted in ornamental horticulture and the insights gained from them, a reduction of the percentage of peat in growing media for ornamental horticulture to 50 % or less appears realistic in the medium term.
- Experiments in the production of container plants in tree nurseries have revealed that they can be produced using peat-reduced substrates. In the medium and long term, the peat proportion in these growing media can be reduced to roughly 50 %.
- The production of young vegetable plants imposes particular requirements on the substrates. Despite this, in organic horticulture, 30–40 % alternative raw materials are already being mixed into substrates for the production of press pots for seedlings and transplants. This should also be possible in the conventional sector in the medium term. Additional peat conservation potential lies in downsizing press pots as well as the use of different propagation systems.
- There is also potential to reduce the use of peat in cemetery gardening. The efforts to use peat substitutes must, however, be increased substantially, since there has not been very much progress in addressing the replacement of peat in gravesite substrates.

# 2

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## The Peat Use Reduction Strategy

## 2.1 Mandate

In its 2050 Climate Action Plan and 2030 Climate Action Programme, the Federal Government has committed to institute measures to provide advice and information on the use of peat substitutes. The objective is to significantly reduce the use of peat in hobby gardening and to implement requirements for the use of peat substitutes in guidelines on awarding public procurement contracts for gardening and landscape architecture. In its coalition agreement, the new federal government also placed special emphasis on the reduction of peat use.

Approval for the extraction of peat is one of the federal states' sovereign powers; for this reason, the federal government instead pursues measures aimed at reducing the use of peat.

Within the scope of the 2030 Climate Action Programme, the Federal Government committed to reducing the use of peat as a growing medium and soil improver as much as possible and, where feasible, avoiding the use of peat altogether. In the hobby sector, this is set to be implemented by 2026. In commercial horticulture, total substitution is not expected to be possible; however, a substantial substitution is deemed to be achievable by 2030.

Following the mandate of the Climate Action Programme, the BMEL has divided its activities into those devoted to the areas of potting soils for hobby gardening and those that focus on growing media for commercial horticulture.

### 2.1.1 Stakeholders and responsibilities

In addition to soil manufacturers, some of whom extract peat from their own deposits, the stakeholders include commercial and hobby horticulturists, the gardening and landscaping sector, trade intermediaries such as hardware stores, garden centres and retail plant nurseries, environmental associations and (semi-) public institutions in the fields of research, advisory services and administration on the federal, state and local level.

The EU is the world's largest producer of peat-based substrates for horticulture. Germany will therefore advocate a uniform, EU-wide approach and increased cooperation between the member states for reducing the use of peat in growing media. This is specifically necessary to avoid a shift of substrate production within the EU. In addition,

Germany will step up its international cooperation on the substitution of peat in growing media in horticulture.

The Federal Government is also aiming to ban the granting of new peat extraction permits under the target agreement between the federal government and the federal states on environmental protection through peatland protection.

A reduction in the use of peat can only be achieved if all stakeholders are aware of their responsibility with regard to climate policy and jointly reduce the peat content of their substrates in a coordinated manner – at least in terms of the average level over all their products. One increasing problem is the reduction in university research and education capacities in the field of horticulture, which makes it increasingly difficult to attract qualified personnel for this task.

### 2.1.2 Supporting institutions

Within the Federal Government, the BMEL is in charge of the Peat Use Reduction Strategy. The Johann Heinrich von Thünen Institute (Federal Research Institute for Rural Areas, Forestry and Fisheries) and the Julius Kühn Institute (Federal Research Centre for Cultivated Plants) support the BMEL in their work. The Thünen Institute primarily works on questions of statistics, the availability of substitutes, economic viability assessments and life cycle assessments, while the Julius Kühn Institute works on issues such as the safety of substitutes and their horticultural potential. Concerning the selection and monitoring of suitable promotion measures and in the area of consumer communication and specialist information, the BMEL is assisted by the Fachagentur Nachwachsende Rohstoffe e.V. (Agency for Renewable Resources, FNR). Public relations measures are developed in stages and use different channels to target specific groups.

### 2.1.3 Guiding principles

The peat use reduction strategy provides that the reduction of peat use should rely on voluntary measures. So far, all stakeholders have acknowledged their responsibility for climate protection.

In addition to the principle of voluntariness, transparency also plays an essential role. All stakeholders are aware of the fact that their actions are closely monitored by other stakeholders and the public.

The BMEL will continuously review the strategy's success and take further steps, if necessary. The BMEL

is working towards not putting national companies at a disadvantage if at all possible.

## 2.2 Preceding process

Progress has been made in reducing peat use in Lower Saxony – the federal state that extracts the most peat – since 2013. Moreover, on 25 March 2015, an intersectoral forum devoted to sustainable peat substitutes derived from renewable resources for use in horticulture (the Lower Saxony Peat Substitutes Forum) was founded at the Ministry of Agriculture of Lower Saxony. The Lower Saxony Peat Substitutes Forum offers stakeholders from

horticulture, agriculture, forestry, science and industry, and representatives of associations and authorities, a platform for scientific exchange. The stakeholders involved in the forum, who represent the entire process chain, are expected to make progress in developing alternatives to peat use in horticulture. The BMEL has been in close exchange with the forum since 2018.

## 2.3 Instruments and measures

### 2.3.1. Talks with different horticultural sectors

In order to come to a mutually agreed, voluntary and coordinated approach to reducing the amount of peat in growing media and potting soils, talks were held with representatives of the different horticultural sectors, substrate producers, potting soil retailers, environmental organisations and hobby gardening associations. The aim is to facilitate a mutually agreed, voluntary and coordinated approach to reducing the amount of peat in growing media and potting soils and to support the industry in developing its own solutions. These talks will be held annually, potentially also in the form of a conference that brings together several different sectors.

In February 2019, the German Federal Association of Horticulture, Landscaping and Sports Facilities (BGL) was the first association to issue a declaration with a carefully worded voluntary commitment that calls on the association's members to primarily use peat-free soils.

### 2.3.2 Investigating peat substitutes and supporting processes

Research into peat substitutes has been conducted for more than 30 years. Despite this, no solution has been found that could completely replace peat, i.e. that can be utilised in a wide range of applications, that is equivalent in terms of horticultural value and simultaneously economically and competitively viable. Based on current knowledge and the resulting substrates, it would currently be possible to reduce peat use by 30–50%. In order to actually implement this reduction in practice, pilot and demonstration projects are being conducted in various horticultural sectors. In addition to pilots and demonstrations in selected operations representing the entire range of horticultural practice, funding is also provided for advice to be given to individual horticultural enterprises on widespread conversion to peat-reduced substrates.

Current research can build upon previous insights and address application-oriented issues which it is essential to solve to achieve a successful voluntary reduction and step-by-step phasing-out of peat in substrates. This includes the development and assessment of alternative raw materials in horticultural plant production and increased testing to develop growing media that satisfy the requirements of a variety of plant species.

On 6 November 2018, the BMEL published a funding announcement calling for innovations aimed at decreasing the percentage of peat in growing media. The deadline

for the submission of project outlines was 28 June 2019. The first research projects were launched during the course of 2020. These research projects will permit work to be carried out on specific issues and solutions for the next stage of peat reduction.

The particularities of the peat-reduction issue and the diversity of horticultural plants mean that further research will continue to be necessary. This need has been funded from the Energy and Climate Fund (EKF) since 2021. The executing agency is the FNR. The ToPGa collaborative project on developing and assessing peat-reduced production systems in the various horticultural sectors is key to achieving the objectives of the strategy. This collaborative project is being coordinated by the Julius Kühn Institute will run for 36 months. It will examine production systems and also assess peat-reduced substrates in terms of their economic, environmental and social impact as well as their microbial properties. This comprehensive assessment will create the basis for a more complete conversion to peat-reduced substrates. The BMEL also promotes other R&D projects on peat reduction, beyond those mentioned specifically in this text.

### 2.3.3 Pilot and demonstration projects

The expert talks have shown that, in addition to research and development projects concerning the medium-term and long-term substitution of peat, pilot and demonstration projects in the individual sectors of fruit cultivation, tree nurseries, vegetable cultivation, cemetery gardening and ornamental horticulture are well-suited to practically demonstrate the available sector-specific solutions for partial – but substantial – reductions of peat in model enterprises. This intermediate step is crucial from an expert point of view. The intention is to avoid later large-scale upheavals in the industry and to design the conversion as a voluntary, flexible process over an appropriate period of time.

On 1 April 2019, a pilot and demonstration project on reducing peat in ornamental horticulture was launched to test substrates containing 30–50% peat substitute in practice. This project is managed by the Federal Office of Agriculture and Food (BLE) and is being conducted as a pilot in five areas – or model regions – that play an important role in German ornamental horticulture. The

regional coordination points comprise the Chamber of Agriculture of Lower Saxony and its Hannover-Ahlem Horticultural Research Institute in the north of Germany, the Straelen/Cologne-Auweiler Horticultural Test Centre in the west, the Saxon State Office for the Environment, Agriculture and Geology in Dresden-Pillnitz in the east, the Horticultural Teaching and Experimental Station in Heidelberg in the south-west and Weihenstephan-Triesdorf University of Applied Sciences in the south. Regional coordinators are closely involved in the conversion of individual horticultural crops to peat-reduced substrates in three to five ornamental horticulture demonstration operations in each region. In total, 24 horticultural enterprises from seven federal states are involved. At the heart of the project is an in-depth knowledge transfer in order to make the project's insights and results available to a wider public, to sensitise the public and to convince as many operators as possible to reduce the percentage of peat in growing media. The results of the 2020/2021 growing years provide reason for optimism. When using peat substitutes such as wood fibre, pine bark, rice husks, perlite and coconut fibres, it is necessary to convert and adapt crop management in order to achieve optimal plant growth. The model farms are also tasked with changing internal operational processes.

The BMEL also promotes pilot and demonstration projects on the practical implementation of peat-reduced substrates in tree nurseries. The Federal Office for Agriculture and Food (BLE) is the executing agency. The cooperative project is conducted as a pilot in two areas that play an important role for German container nurseries. Regional coordinators are closely involved in the conversion of individual crops to peat-reduced substrates on five demonstration farms in the two model regions in each case. Here too, the first results are promising.

The two pilot and demonstration projects complement each other well from a technical point of view and involve close cooperation. In this way, they provide a broad basis for enabling a sharp reduction in the use of peat in ornamental horticulture and in tree nurseries as well as for introducing this topic on a wider scale to extension services and practical operations.

Aside from this, further pilot and demonstration projects financed by the Energy and Climate Fund are being prepared and/or reviewed.

### 2.3.4 Technical and consumer information on the properties of peat substitutes and their uses

There is already a considerable pool of expertise on peat substitutes and their uses for horticultural crops that is available at the “Hortigate” portal, which is frequently used by horticultural enterprises and regularly expanded. “Hortigate” is hosted by the German Central Horticultural Association (ZVG). The online information system started out as a BMEL-funded pilot and demonstration project between 2004 and 2008. It consists of a subscription area and an open information area. Between 2008 and 2011, the BMEL additionally also funded the generally accessible “Hortigate energy portal”, which includes expert forums that flank the federal programme for the promotion of energy efficiency in horticulture. “Hortigate” is very well-suited for the required knowledge transfer and the involvement of horticulture in the Peat Use Reduction Strategy.

Further steps have been taken:

In order to accelerate the conversion process, the nationwide exchange of information on the properties of peat substitutes and their uses in horticultural production and horticultural services will be intensified by means of expert forums. This will guarantee the continuous incorporation of new discoveries made in research, experiments and practice.

Environmental awareness and consumer information on peat substitutes will also be promoted in the hobby gardening sector. A considerable proportion of the peat traded in Germany is used in the hobby gardening sector. After landscaping, the hobby gardening sector is set to be the first market segment where peat will no longer be used. Various media channels will be used in the long term to pool consumer information.

### 2.3.5 Individual plant-specific advice for horticultural operations, and regional competence centres on knowledge transfer

In order to put the insights gained into practice as quickly as possible, horticultural enterprises should receive independent, individual advice. Enterprises must be placed in a position where they can access tailor-made suggestions for planned crops and new technologies. Acceptance of the Peat Use Reduction Strategy among gardeners will be able to be increased significantly if competent bodies provide assistance when problems with crop management arise. The purpose of these bodies is to support horticultural operations in substituting peat with other substances in the medium and long term. The aim of using alternative substrates is to reduce the negative climate impact of peat extraction and peat use. These bodies are intended to translate the results from the pilot and demonstration projects and trials into practice.

### 2.3.6 Independent monitoring to measure the reduction in the amount of peat used in Germany

The available statistical data are ill-suited to demonstrate the reduction in the amount of peat used in commercial and hobby horticulture with sufficient accuracy. The strategy’s trustworthiness, however, relies heavily on an independent, plausible data stock on substrate production and peat use.

### 2.3.7 Requirements for public procurement contracts

In consultation with the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV), the Federal Ministry of Food and Agriculture has developed requirements for public procurement contracts. In order to make this measure effective, the federal authorities responsible for public procurement contracts must be provided with the necessary information. The funding options of the instruments must be assessed in each individual case.

# 3

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## Conclusion and outlook



It is largely uncontroversial in the scientific community that there are substrate mixtures besides peat which can be used to achieve excellent crop yields for many plant species and varieties. All horticultural sectors are therefore experimenting with using certain percentages of peat substitutes in the growing medium. It cannot yet be predicted whether, at the end of this development, there will be substitute substrates for nearly all plant species that will enable horticultural enterprises to use efficient production methods and achieve equivalent cultivation success. The production of vegetable seedlings and transplants, in particular, frequently still requires the use of peat-rich substrates; this is one of the reasons why even the guidelines of many organic growers' associations permit substrate peat percentages of up to 70% in the production of young plants. The permissible proportion for organic ornamental plants is 50% but there are already enterprises that cultivate some species in peat-free substrates. Intensive research work is necessary in this field until a conclusive statement can be made on how low the percentage of peat can be in a sector facing international competition.

Due to the many stakeholders involved in the process – soil manufacturers, garden centres, potting soil retailers, hobby horticulturists and others – any approach to reduce the use of peat that is based on the principle of voluntariness requires time for its implementation. Ultimately, it is also crucial to give the soil industry sufficient scope to develop qualitatively equivalent or better peat-free substrates that can be made available in sufficient quantities.

In the BMEL's view, a schedule up until 2026 will be required for a relatively smooth conversion to peat-free potting soils in the hobby gardening sector. In the commercial horticultural sector, it is not likely to be possible to achieve complete substitution; however, using this Strategy, a large degree of substitution should be achievable by 2030.

See also:

→ <https://torfersatz.fnr.de/>

→ <https://www.torffrei.info/>

→ [https://www.bmel.de/SharedDocs/Downloads/DE/\\_Landwirtschaft/Pflanzenbau/Gartenbau/tagungsband-torfminderung.pdf?\\_\\_blob=publicationFile&v=3](https://www.bmel.de/SharedDocs/Downloads/DE/_Landwirtschaft/Pflanzenbau/Gartenbau/tagungsband-torfminderung.pdf?__blob=publicationFile&v=3)

→ <https://www.ble-medienervice.de/0129/torf-und-alternative-substratausgangsstoffe>

Strict schedules in commercial horticulture should only be required from the growing media industry and gardeners once the life cycles of substitutes have been assessed because such assessments are necessary in order to make reliable statements on their advantages and disadvantages.

European rules must be laid down by the community in order to prevent any distortion of competition in respect of growing media producers and horticultural producers outside Germany.

In summary, the BMEL has, together with its research institutions, developed a concept that will permit peat to be phased out of use in the hobby gardening by 2026 and to be greatly reduced in the commercial horticultural sector by 2030 – all based on voluntary decisions by all stakeholders. It is now up to all those involved to implement the responsibility they bear for climate policy.

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#### **SOURCES**

p. 9, Table 1: Federal Statistical Office (Destatis), 2022 |  
as per 10 March 2022 / 10:15:25;  
p. 10, Figure 1: Industrieverband Garten e.V.  
(<https://www.erden-substrate.info>, May 2022).

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