

“Transition to Peat-Free”

Environmental Horticulture, Division of Science and Collections

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Contents

Introduction

Fellowship objectives

Project Partners

Project Scientific Approach

Fellowship Progress

RHS Survey Findings

PhD's

Fellowship outputs

Communication and Dissemination

Why Peat-Free?

- Peat bogs act as **Carbon sink**
- Regulate **Hydrology**
- Support unique and diverse **Biodiversity**



- ✓ Mitigate the **climate and biodiversity crises**
- ✓ Meeting the **net zero 2050 target** of the UK

‘To accelerate the transition to peat-free horticulture’

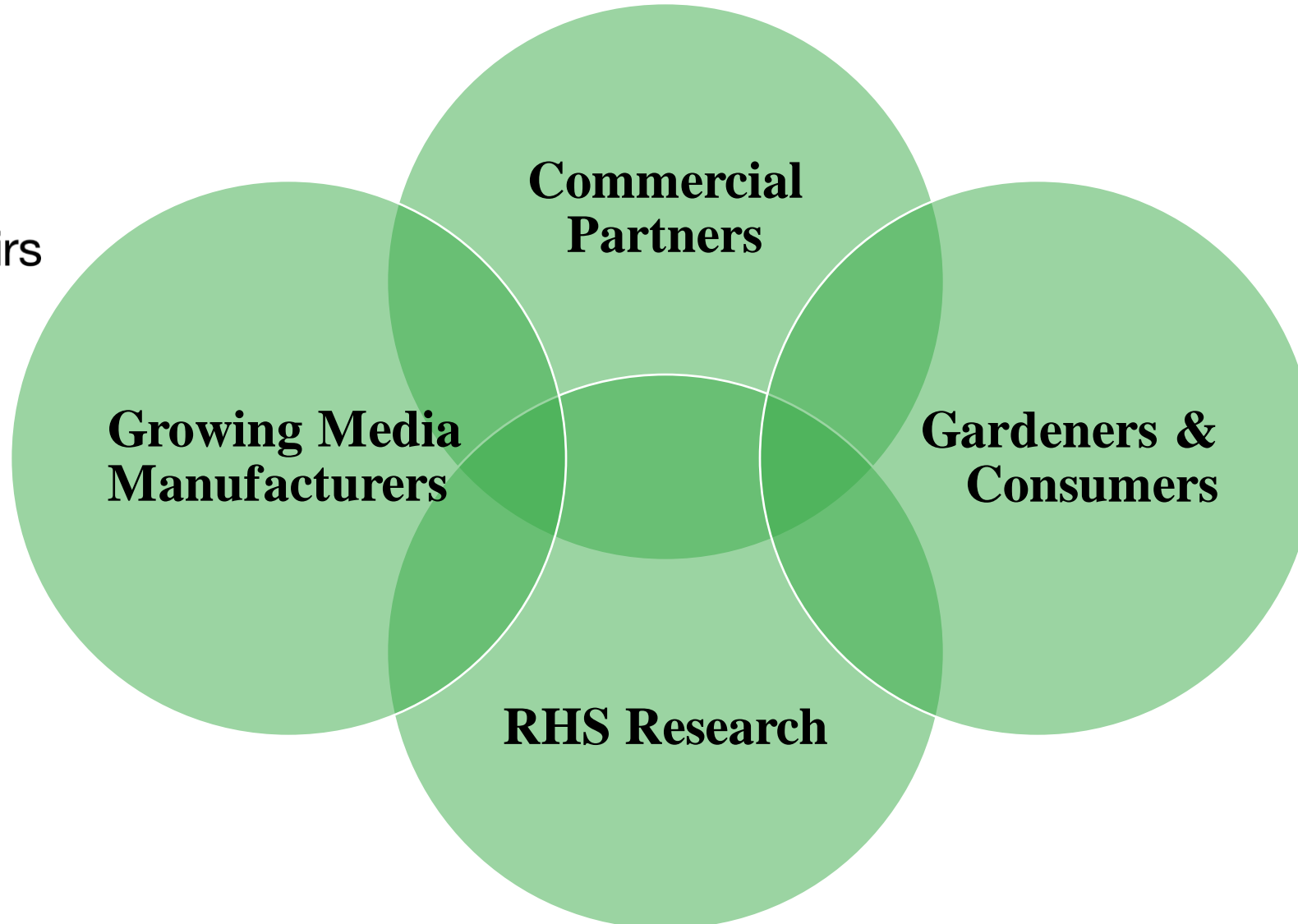
Project objectives

- To support the horticulture industry, domestic gardeners and RHS transition to the use of 100% peat-free growing media through **research evidence**
- To research **economically** and **environmentally** sustainable, as well as **practically viable**, peat-free growing media solutions
- To trial effective management of **substrate** composition, **water** and **nutrients** for peat-free growing.
- To support the delivery of the RHS Sustainability Strategy: **Net Positive for Nature and People Target 1 – Climate Positive by 2030.**

Project Partners and Collaborators



Department
for Environment
Food & Rural Affairs



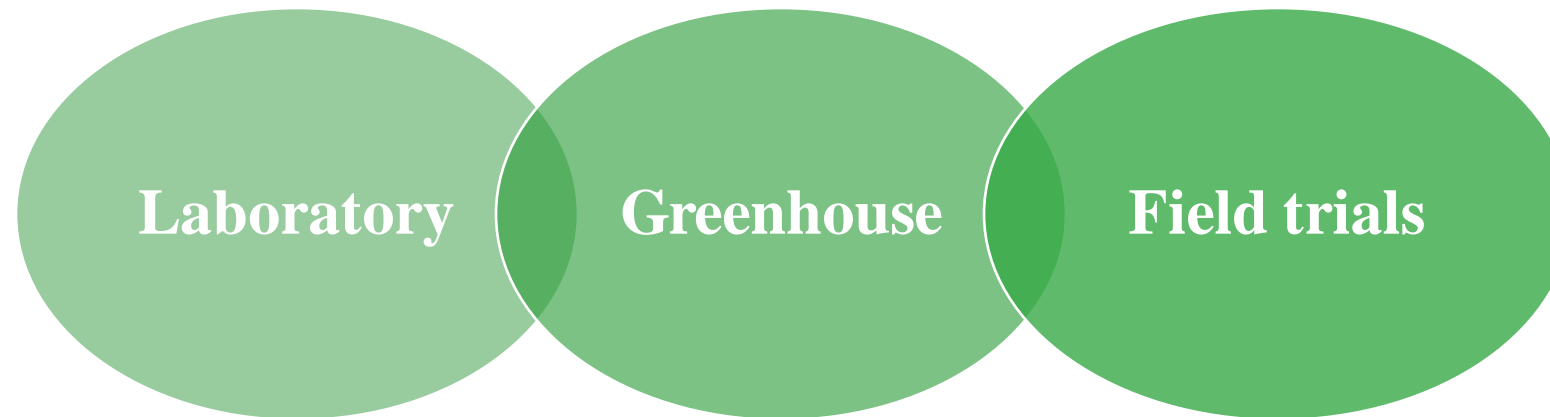
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Research Trials

To meet the practical requirements of the production system in which peat-free substrates are being utilized

RHS and Commercial partners



Interdisciplinary research approach

- a. **Substrate science** – characterization of peat-free growing media for physical, chemical and biological properties
- b. **Horticulture** - plant growth, development, quantitative and qualitative aspects
- c. **Plant physiology** - stress responses as influenced by peat-free substrates
- d. **Resource management** –Efficient and effective management of substrates, water and nutrients

Setting up Commercial-Scale Peat-Free Trials

Overview:

1. Key challenges
2. Aims/objectives
3. Plan of work/timeline

Research considerations:

1. Scale of the trials
 - No. of plant types/plant groups
 - No. of growing media
 - No. of plants
2. Season
3. Growing conditions

Scientific rigour:

1. **Randomisation**
2. **Replication**
3. **Control**
4. **Data capture and management**
5. **Analysis**

Fellowship Progress

			
<p>Peat-Free Growing - Herbaceous Perennials</p>	<p>Peat-Free House Plant Propagation</p>	<p>Peat-Free Ericaceous Trials</p>	<p>Peat-Free Growing - Shrubs, Perennials and Landscape Plants</p>
			
<p>Peat-Free Growing - Alpines, bulbs, herbaceous, hardy nursery stock</p>	<p>Peat-Free Propagation - Herbs and Outdoor bedding plants</p>	<p>Peat-Free production of culinary herbs</p>	<p>Peat-Free Propagation</p>











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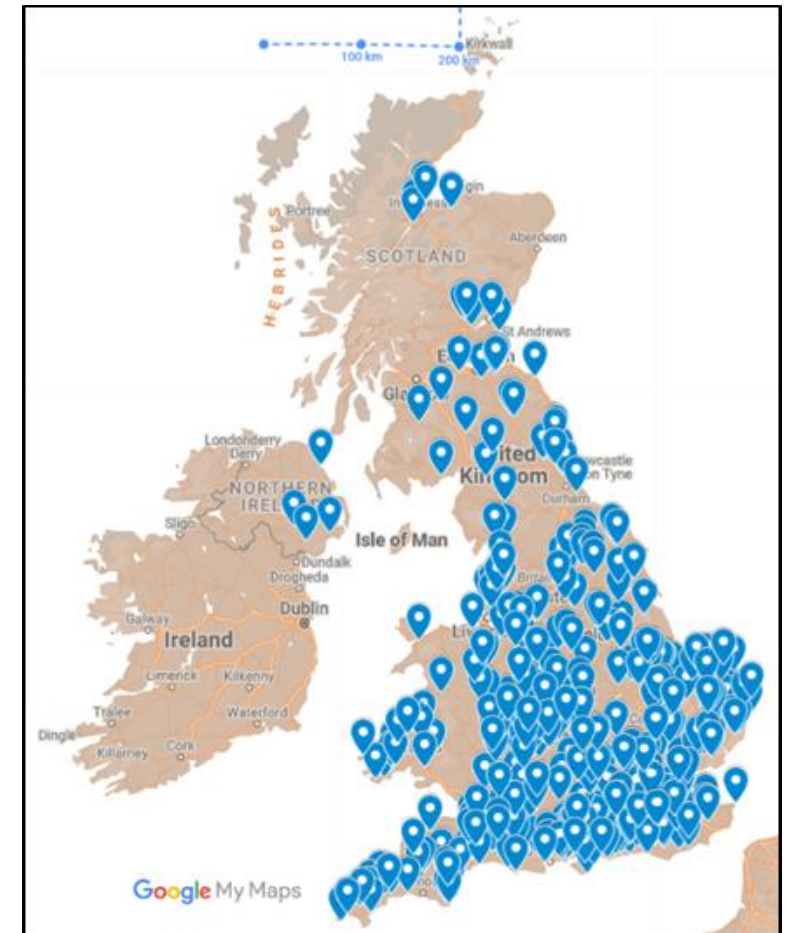
RHS Industry Peat-Free Survey 2023

Key Challenges:

- Irrigation
- Cost
- Nutrition

Assistance Industry needs:

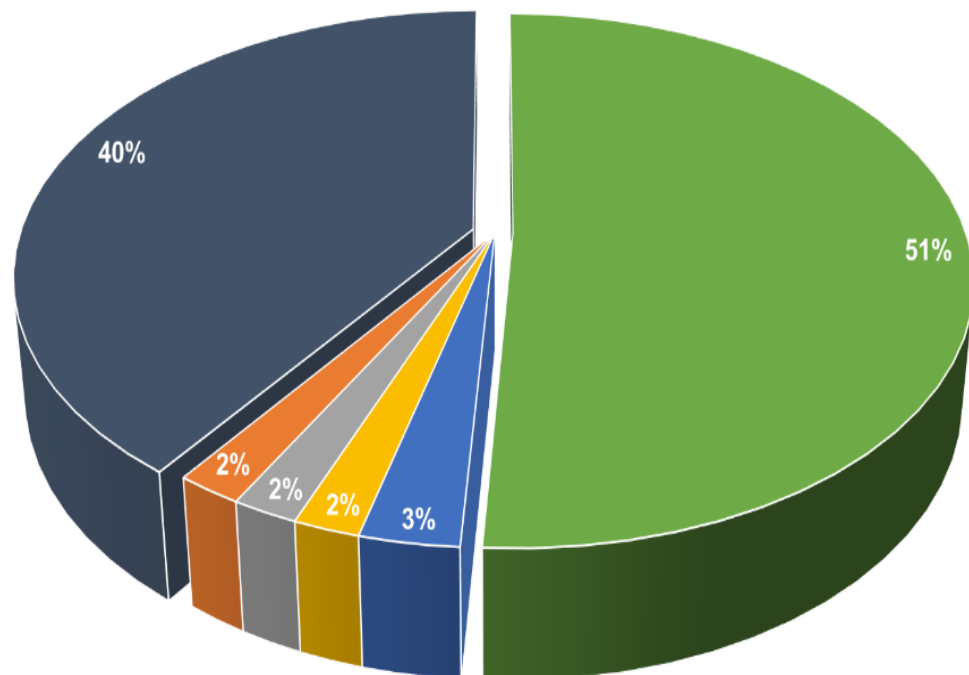
- Technical support
- Knowledge/Information hub
- Financial support from Govt.



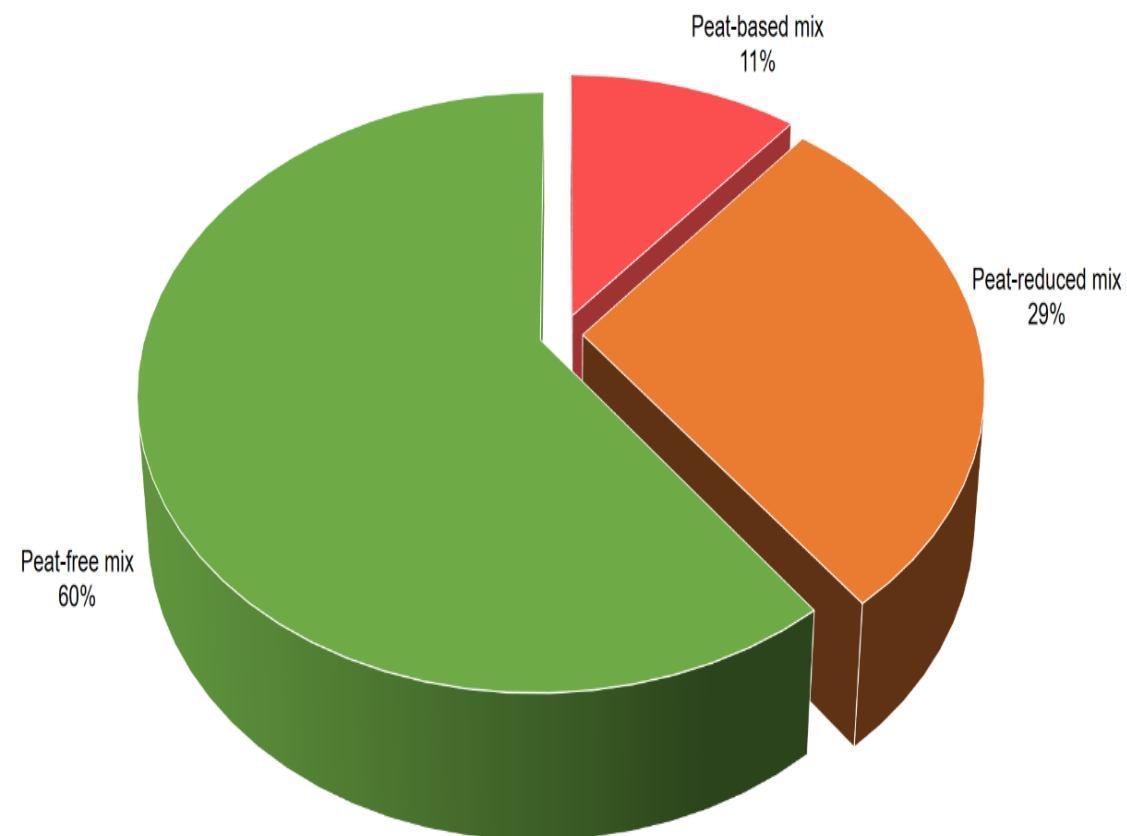
RHS Industry Peat-Free Survey 2023

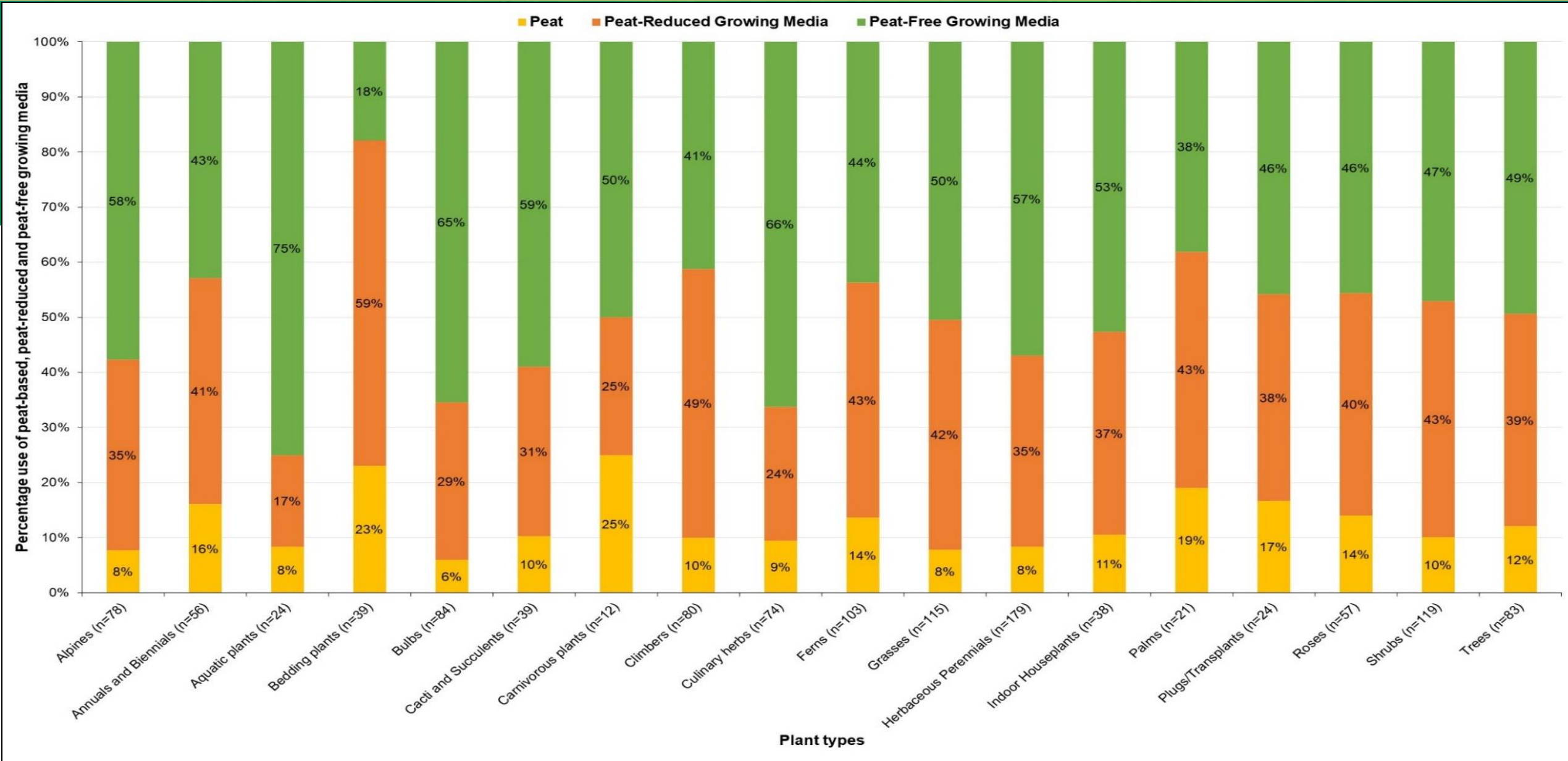
Percentage of peat-free, peat-reduced and peat-based mixes used

Peat-Free Timeline*



- By end of 2026
- By end of 2028
- By end of 2030
- After 2030
- Don't aim to participate in peat-free transition
- Can't say as it depends on..





The distribution of plant types as per use of peat, peat-reduced and peat-free

RHS resources to support the UK Transition to Peat-Free

Science

PhD's



**Harper Adams
University**



Technical support, communication and dissemination

- Peat Free Campaign Manager – Claire Thorpe
- Peat Free Transition Technician – Nicola Barker

Fellowship outputs

List of peat-free nurseries in the UK

Helping gardeners, growers and buyers source more sustainably grown plants, with peat-free plants for sale near you, online and wholesale

1. RHS Industry Peat-Free Survey 2023 Report
2. Validated list of 100% Peat-Free businesses in the UK
3. Launch of the first RHS peat-free growers workshop
4. Scientific article (ISHS)
5. PhD's



Royal Horticultural Society (RHS) Industrial Transition to Peat-Free Survey 2023 Report

RHS, Defra and Industry 'Transition to Peat-Free' Fellowship Project

September 2023



RHS Registered Charity No. 222795/SC041624



**Workshop summary:
practical management
of peat-free growing
media**



Knowledge and technology transfer : Key stake holders

Communication and Dissemination

RHS

- RHS web-pages
- Reports
- Workshops
- Field trips
- Horticulture fairs/shows
- Media communications

Professional horticulturists

- Peat-free growing medias
- Evidence based reports
- Growers protocols
- Factsheets
- Trial protocol
- Workshops
- Grower factsheets
- Online web-content
- Popular science articles

Scientific audience

- International peer-reviewed journals
- Conferences

Government

- Reports
- Press related queries

Transition to Peat-Free Horticulture

Potential Peat-Free alternatives, Circular Economy, Sustainability and Productive Horticulture

#PeatFree

#UKGrown



Source: RHS

Reduce

Reuse

Recycle &

Reinvest

Acknowledgements



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Thank you

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Third International ISHS Symposium on Greener Cities: Improving Ecosystem Services in a Climate-Changing World | 25-28 Sept 2024 | RHS Garden Wisley, Surrey, UK



<https://www.rhs.org.uk/science/green-cities-2024>

About the symposium

Welcome to the ISHS Green Cities 2024 symposium, hosted by **RHS Garden Wisley**. The symposium will take place at the UK's first dedicated horticultural scientific centre of excellence, **RHS Hilltop – The Home of Gardening Science**.

This four-day event will provide a forum to network and learn about green infrastructure and nature-based solutions from like-minded researchers from all over the world.

