

Gardening for biodiversity and a changing climate

A public guide inspired by RHS “Gardening in a Changing Climate”

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Front cover: Foxgloves; above: mixed planting.



1. Overview

As the UK climate becomes warmer, wetter in winter, drier in summer, and increasingly unpredictable, gardeners can take practical steps to create resilient, beautiful gardens that thrive in future conditions. This guide summarises key ideas from the RHS report, including three regional planting strategies based on where you live in the UK.

1.1.1 Key climate challenges for UK gardens

- Hotter, drier summers.
- Wetter winters and increased waterlogging.
- More extreme weather events.
- Longer growing seasons.
- Increased pest and disease pressures.

1.1.2 Principles for climate-resilient gardening

Design for water management

- Visit the [RHS Mains2Rains site](#).
- Use permeable surfaces, rain gardens, and swales.
- Install large capacity water butts.
- Improve soil structure with compost and mulches.

Choose climate-resilient plants

- Mix drought tolerant, heat tolerant, and moisture tolerant species (while positioning them appropriately (mindful of micro-climate and soil conditions)).
- Include a wide variety of pollinator friendly plants.
- Avoid invasive species.

Create shade and shelter

- Plant trees and shrubs to cool the garden.
- Use hedges and layered planting to create microclimates.
- Lawn management – avoid irrigating but, if necessary, then prioritise use of rainwater.

Support wildlife

- Provide pollen and nectar sources across seasons, selecting from a range of native and non-native plants for maximum pollinator benefit.
- Include ponds, long grass, log piles, and varied habitats.
- Reduce chemical use and only use 100% peat-free grown plants and / or growing media.

2. Planting schemes

2.1.1 Planting scheme 1: South & eastern England - Hotter, drier summers

Best for: London, East Anglia, south-east, south coast

Design focus: Mediterranean, drought-tolerant, heat-resilient planting.

Ornamental plants

Botanical name	Common name
<i>Lavandula angustifolia</i>	English lavender
<i>Hedychium spp.</i>	Ginger lily
<i>Allium</i>	Ornamental onion
<i>Dianthus spp.</i>	Carnation
<i>Escallonia spp.</i>	Escallonias
<i>Geranium spp.</i>	Geraniums
<i>Brugmansia spp.</i>	Angels trumpet
<i>Tulipa spp.</i>	Tulips

Grasses

Botanical name	Common name
<i>Stipa tenuissima</i>	Mexican feather grass
<i>Pennisetum alopecuroides</i>	Fountain grass
<i>Miscanthus sinensis</i>	Maiden grass
<i>Festuca glauca</i>	Blue fescue

Edible plants

Botanical name	Common name
<i>Ficus carica</i>	Fig
<i>Rosmarinus officinalis</i>	Rosemary
<i>Olea europaea</i>	Olive
<i>Thymus vulgaris</i>	Thyme
<i>Origanum vulgare</i>	Oregano
<i>Salvia officinalis</i>	Sage
<i>Solanum lycopersicum</i>	Tomato
<i>Capsicum annuum</i>	Pepper
<i>Solanum melongena</i>	Aubergine

Biodiversity friendly plants

Botanical name	Common name
<i>Lavandula angustifolia</i>	English lavender
<i>Echinacea purpurea</i>	Purple coneflower
<i>Buddleia spp.</i>	Butterfly bush
<i>Achillea millefolium</i>	Yarrow
<i>Verbena bonariensis</i>	Tall verbena
<i>Teucrium chamaedrys</i>	Wall germander
<i>Cotoneaster horizontalis</i>	Rock cotoneaster
<i>Crataegus monogyna</i>	Hawthorn

2.1.2 Planting scheme 2: Northern and western UK – wetter, milder winters

Best for: Scotland, northern England, Wales, Northern Ireland, south-west England
 Design focus: Managing excess water, strong structure, moisture-loving plants



Ornamental plants

Botanical name	Common name
<i>Hydrangea arborescens</i>	Smooth hydrangea
<i>Agave American</i>	Century plant
<i>Helleborus orientalis</i>	Lenten rose
<i>Digitalis purpurea</i>	Foxglove
<i>Geranium phaeum</i>	Dusky cranesbill
<i>Hosta sieboldiana</i>	Blue hosta
<i>Forsythia spp.</i>	Golden Bells
<i>Iris sibirica</i>	Siberian iris
<i>Berberis spp.</i>	Barberry

Grasses

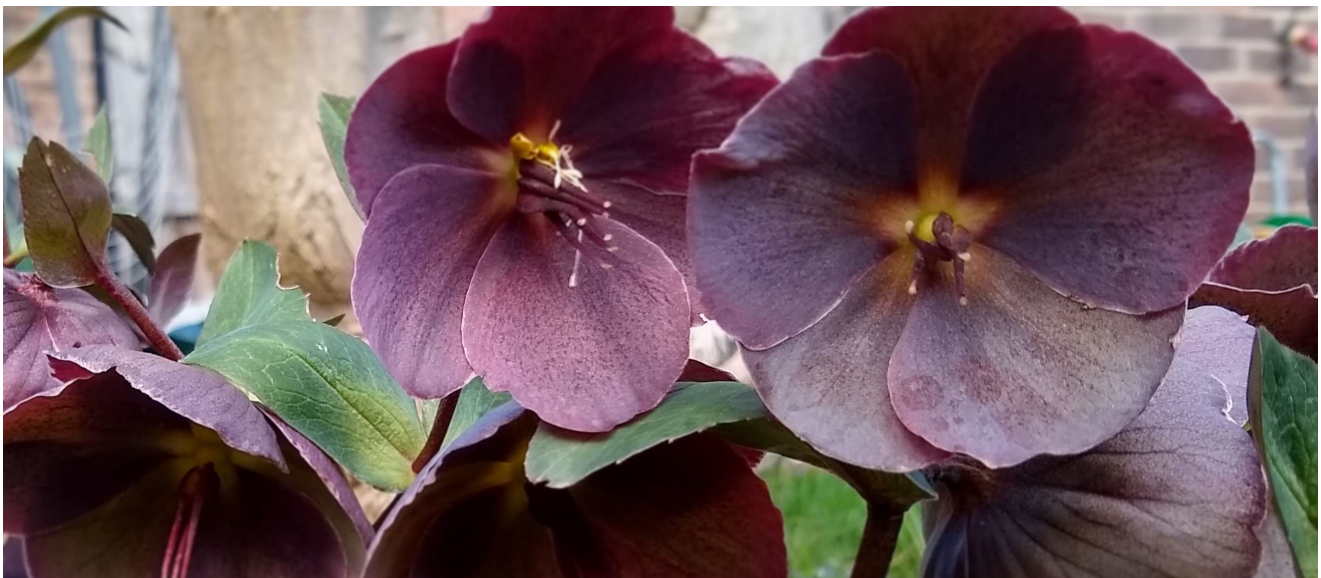
Botanical name	Common name
<i>Deschampsia cespitosa</i>	Tufted hair grass
<i>Molinia caerulea</i> 'Heidebraut'	Purple moor grass
<i>Carex elata</i> 'Aurea'	Bowles' golden sedge
<i>Hakonechloa macra</i>	Japanese forest grass

Edible plants

Botanical name	Common name
<i>Rheum rhabarbarum</i>	Rhubarb
<i>Vaccinium corymbosum</i>	Blueberry
<i>Ribes rubrum</i>	Redcurrant
<i>Ribes nigrum</i>	Blackcurrant
<i>Brassica oleracea</i>	Kale
<i>Allium schoenoprasum</i>	Chives
<i>Petroselinum crispum</i>	Parsley

Biodiversity friendly plants

Botanical name	Common name
<i>Digitalis purpurea</i>	Foxglove
<i>Geranium spp.</i>	Geranium
<i>Helleborus orientalis</i>	Lenten rose
<i>Hypericum spp.</i>	St John's wort
<i>Buddleia spp.</i>	Butterfly bush
<i>Filipendula spp.</i>	Meadowsweet
<i>Lonicera spp.</i>	Honeysuckle
<i>Salix purpurea</i>	Purple willow
<i>Viburnum opulus</i>	Guelder rose



Lenten rose



2.1.3 Planting scheme 3: Urban and suburban areas – heat islands and limited spaces

Best for: Cities and towns across the UK

Design focus: Cooling, greening, vertical planting, biodiversity

Ornamental plants

Botanical name	Common name
<i>Geranium</i>	Geranium
<i>Agave American</i>	Century plant
<i>Eremurus spp.</i>	Foxtail lilies
<i>Ceanothus spp.</i>	Californian lilac
<i>Heuchera 'Obsidian'</i>	Coral bells
<i>Verbena rigida</i>	Rigid verbena
<i>Bidens spp</i>	Spanish needles
<i>Coreopsis spp.</i>	Tickseed

Grasses

Botanical name	Common name
<i>Stipa tenuissima</i>	Mexican feather grass
<i>Panicum virgatum 'Shenandoah'</i>	Switchgrass
<i>Carex testacea</i>	Orange sedge
<i>Festuca glauca</i>	Blue fescue

Edible plants

Botanical name	Common name
<i>Fragaria x ananassa</i>	Strawberry
<i>Allium spp.</i>	Onion
<i>Citrus spp.</i>	Citrus trees
<i>Olea europaea</i>	Olive
<i>Prunus persica</i>	Peach
<i>Spinacia oleracea</i>	Spinach
<i>Capsicum annuum</i>	Pepper
<i>Ocimum basilicum</i>	Basil

Biodiversity friendly plants

Botanical name	Common name
<i>Erysimum 'Bowles's Mauve'</i>	Perennial wallflower
<i>Echium spp.</i>	Viper's buglosses
<i>Nepeta x faassenii</i>	Catmint
<i>Verbena rigida</i>	Rigid verbena
<i>Lavandula stoechas</i>	French lavender
<i>Sedum (Hylotelephium)</i>	Stonecrop
<i>Achillea 'Terracotta'</i>	Yarrow
<i>Scabiosa columbaria</i>	Small scabious



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