Gardening for a changing climate



Introduction

- As the climate warms extremes of weather are becoming the norm.
- Proliferations of Pests and Diseases
- Long periods of rain and drought.
- Shorter winters with less frost.
- Gardening successfully has become more challenging but there are a number of practices which can help!



Sustainable practices

- **Grow your own fruit and veg:**
- **Fewer containers**:
- **Composting:**
- **Feed plants:**



Sustainable practices:

- **Mulch:**
- **Create dead hedges:**
- **Adapt your gardening year:**
- **Increase biodiversity**:



Longer term projects

- **Plant permanent, perennial beds:**
- **Create multi-layered planting:**
- **Harvest rainwater:**
- **Build a pond**



Dead Hedges

- Reuse your prunings in a dead hedge
- A great way to thicken up the base of overgrown boundary hedges
- Hammer in stakes at staggered intervals in a double row; the distance apart depending on the length of your brash
- Weave your prunings inside the stakes and bash down to help it knit together
- Birds, insects and mammals will all colonise it
- Good instant windbreak



Mulching

- Benefits: equalises soil temperature, suppresses weeds, conserves water and looks good.
- Apply a thick layer (10cm) of organic matter to the soil surface, avoiding the neck of woody plants
- Leaf mould is ideal as its free and contains no weed seeds but your own compost, well rotted farmyard manure (dark coloured and not smelly!) or chipped bark also excellent
- Cardboard can be used to suppress weeds with organic mulch on top



‘No Dig’ method

- Now widely accepted to be a better method of vegetable production on a garden scale.
- Organic mulch applied to soil surface each year allowing the soil’s flora and fauna to flourish, leading to increased aeration, drainage and availability of nutrients.
- Weed seeds already in the soil don’t get exposed to warmth and light so fewer will germinate; those that do can be pulled or hoed and come out of mulched areas very easily.
- Ideally beds are 1.2m wide so they can be reached without walking on them and as long as you like

Composting

- Build your bin out of whatever you have available: galvanised sheeting is great as it doesn't rot and is easily cut to size.
- Position bins in an out of the way space, directly onto the soil
- Place twiggy branches in the base for added aeration
- Shred or cut up all un-diseased organic matter and layer on your heap alternating green and brown material
- Use grass clippings in moderation as activators but don't put on too thick a layer as it will become anaerobic; mix with brown material
- New bins can be 'seeded' with compost worms commonly found in horse manure or from another compost heap. Cover to retain heat.





Improving biodiversity

- Create wildflower meadows
- Leave large areas of grass uncut, just cutting paths for access (cost saving!)
- Use dead hedges as wind breaks to utilise pruned materials rather than shedding or burning.
- Create banks in the garden to encourage ground dwelling insects which are often predatory
- Create ponds and wetlands
- Don’t use pesticides



Wildflower meadows

- Only successful on **poorer** soils: rich garden soil will allow rank grasses to out compete the wildflowers. Top-soil can be removed exposing the subsoil and the seed mix applied directly.
- Sow in the autumn as some seeds require a winter to break their dormancy
- Wildflower meadows are successional: plants like Oxeye Daisy will initially dominate but will be superseded by less vigorous species as mowing continues
- Allow seed to mature on the plants before mowing with a reciprocating knife mower or brush cutter
- Let the cut material lie for at least a week before hooking off then stack in heaps to provide habitats for grass snakes and voles
- Cut paths through the main part of the meadow so you can appreciate the flowers more fully



Contending with drought conditions

Longer and drier summers make it important to make your garden and plants as resilient as possible using a combination of the following techniques:-

- Incorporating organic matter into the soil when planting or initially cultivating will improve the water holding capacity of your soil and also benefit your soil health by increasing the soil's flora and fauna. Use well rotted farmyard manure, leaf mould or your own compost.
- Mulch using a 10cm (4") layer of organic matter applied to all exposed soil (avoiding the base of stems of woody plants). Apply late autumn or after weeding throughout the year.

Contending with drought conditions

- Plant shade trees: shade is a sparse commodity in most new gardens until the trees have established.
- Careful selection of plants to suit your soil conditions and exposure is important, planting Mediterranean plants and grasses is good in light soils but we also have long periods or rain so many of them are comparatively short lived in the UK as they ‘over grow’ and become woody.
- Create a gravel garden using drought tolerant perennials.
- Create artificial shade by erecting sails

Contending with waterlogging

- Use rainwater catchment from all buildings with overflows feeding ponds or bog gardens
- Transform regularly waterlogged areas into ponds or bog gardens, this will provide another habitat
- Improve soil drainage by the addition of organic matter
- Dig banks and ditches to divert runoff at the bottom of slopes
- Create rain gardens to collect run-off from buildings and gradually let it soak into the surrounding soil
- Careful plant selection of plants which will contend with periods of waterlogging



Pest and Diseases: the impact of climate change and globalisation

- Milder winters mean more pests can overwinter leading to earlier infestations.
- Increasingly, even after Brexit, new P&D coming over in imported plants and establishing populations in our gardens
- Extremes of weather can benefit fungal pathogens
- Plants stressed by weather extremes are more vulnerable
- Increased use of exotics provide hosts for a wider range of P&D
- Over-use of pesticides lead to pest and diseases becoming resistant



Chemical-free ways to reduce P&D

- Encourage wildlife and natural predators
- Install a pond or bog garden to increase biodiversity
- Allow messy areas to exist in the garden so ground beetles etc can flourish (nature piles) and create bug hotels
- Improve soil health to make plants as robust as possible
- Good garden hygiene, destroying infected plants and leaves eg black spot on roses
- Good observation of plants to control the pest before it gets established
- Use of pheromone traps to assess which insect pests are present
- Good weed control in veg garden to eliminate host plants (Groundsel = rust)

Kitchen Cabinet Remedies

- Bicarb fungicide.
- Used against powdery mildew and Rose Blackspot
- 4 tsp potassium bicarbonate
- 1 tbsp vegetable oil
- 5 litres water
- 2 drop washing up liquid.
- Spray lightly onto foliage on a dull day

Milk

- Proven useful in the prevention of Potato Blight.
- Mix 40:60 milk water
- Spray to runoff over foliage in bright sunshine?!
- Reapply every 7-10 days
- Proteins in the milk react with sunlight and destroy the fungal hyphae.

Banana Water

- Chop up banana skins and cover with water in a vessel
- Allow to sit for about a week.
- Water around the base of plants and vegetables
- High in potassium encourages good flowering

Rhubarb Leaf Water

- Tear up a rhubarb leaf
- Pour over boiling water
- Allow to cool
- Dilute 10:1 with water
- Spray on aphid populations
- Oxalic acid will kill the adult aphids without harming beneficial insects

Garlic Water

- Place the skins and tops and tails of garlic in a jar on the window sill
- Allow to ferment for 10 days
- Dilute 50:50 with water
- Spray on insect pests

Let's Swap Together for Good!

- Swap seeds with your friends and neighbours.
- Swap seedling of flowers and veg.
- Share ideas and tips you read online or in books and publications.
- Swap labour, having "work parties" for larger projects can be useful and fun as long as its reciprocated!
- When dividing herbaceous perennials pot some up and swap them for varieties you don't have.
- Pass on gardening magazines once you've finished reading them.
- Q&A?