



# Water Wise Gardening

## What is Water Wise Gardening?

Water wise gardening is simply using water as efficiently as possible in the garden. Water wise gardens make the most of what comes naturally, conserving our precious water resources by careful planning, planting and water recycling. These gardens can be just as beautiful, varied and productive as any other garden. You can have flowers, fruits, vegetables, lawns and even water features in a water wise garden.

## Why Bother?

It always seems to be raining in the UK, so why do we need to conserve water in our gardens? Although the UK gets lots of water we also use lots of water. On average, each household uses about 150 litres everyday, that is enough to fill 15 buckets! In the south east, there is a predicted shortage of water over the next 25 years and climate change may make the situation worse.



We all need to help by using less water, the main reasons are:

- it can help save our wetland wildlife.
- it can save you time
- it can save you money

Gardens need most water when they are actively growing in spring and summer. Many people water their garden with tapwater at this time. This water has been taken either from our rivers and streams or out of underground rocks (called aquifers). These aquifers supply our rivers, streams and wetlands with water throughout the year. In spring and summer wild plants such as water crowfoots grow, kingfishers, otters and water voles will be raising young. So we deplete the water from our wetlands at the time when our wildlife needs it most!

As well as being good for the environment, water wise gardening can save you time. Capel Manor Environmental and Horticultural College have studied the time it takes to look after a water wise and a water-wasting garden. In just one month (September 1998) the water wise garden took only 2 hrs 30 minutes to look after compared to over 8 hours for the water-wasting garden (See figure 1). Excessive garden watering also costs you money. Water companies pass on the costs of abstracting and treating water to their customers either via metering or standing charges! Water wise gardening is cheaper and more sustainable.

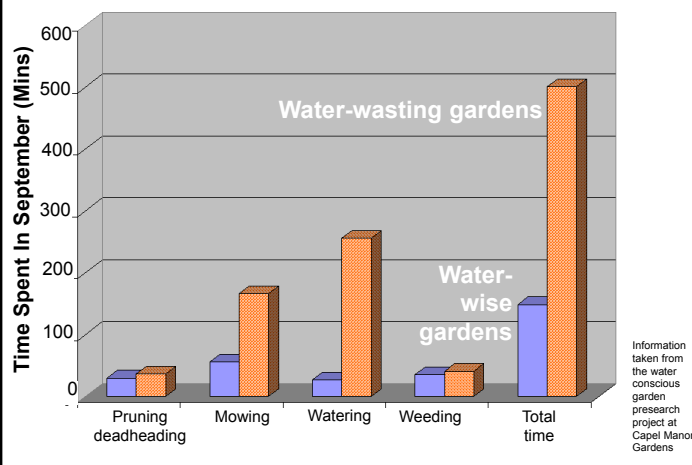
## How to be water wise

There are many tricks to water wise gardening which are listed below and described in more detail in the rest of the leaflet.

- Recycle water
- Improve soil structure and use mulches
- Use a well-designed drip irrigation system instead of sprinklers and overhead systems.
- Water efficiently, if using a watering can or hose water in a depression around individual plants, watering the soil between the plants will just encourage weeds to grow and waste water.
- Water when it is cooler, during early morning or evening and do not water when it is windy. This will reduce evaporation and water loss.
- Grow plants that will tolerate drought
- Let your lawn grow longer as it will trap dew and reduce evaporation from the soil.
- Use large containers for patio plants as these retain more moisture than small pots. Ceramic or metal pots are less porous than terracotta. Topping pots with mulch will help keep moisture in pots. Grouping smaller pots together will also reduce the rate at which water is lost.
- Do not water well-established trees (unless in pots) as these will usually have deep roots which can access the ground water in drought conditions.

Figure 1

**Time Spent on a Water-wise and Water-wasting Gardens**



## Water Wise Plants

Remember all plants need watering when you first plant them, try soaking a dry rootball in a bucket of water before planting. However, some plants are resistant to drought and can cope without watering during short dry spells.

Only species thought to be native to the UK are included therefore many species originate in sand dunes, seas and rocky shores since they are likely to experience droughts in these habitats. Plants should be purchased from a reputable supplier and must not be taken from the wild. Examples of native plants that are drought tolerant for a short period are given opposite.

### Perennials

*Achillea* species  
*Anchusa arvensis*  
*Carex* species

*Centaurea* species  
*Crambe maritima*  
*Dianthus* species  
*Eryngium* Species  
*Euphorbia* Species  
*Limonium* species  
*Nepeta cataria*  
*Papaver* species  
*Scabiosa columbaria*  
*Verbascum* species

### Ground Cover or climbers

*Geranium* species  
*Hedera helix*  
*Helianthemum* species  
*Hypericum* species  
*Iberis amara*  
*Origanum vulgare*  
*Sedum* species  
*Stachys*

*Thymus* species

Yarrows  
Bugloss  
Sedges (some species only)  
Knapweeds  
Sea kale  
Pinks  
Sea hollies  
Spurges  
Sea-lavenders  
Cat mint  
Poppies  
Small scabious  
Mullein

Crane's bills  
Ivy  
Rock roses  
St John's Worts  
Wild candy tuft  
Wild marjoram  
Stonecrops  
Betonies  
/ Woundworts  
Thyme

### Hedge, Trees and Shrubs

*Arbutus unedo*  
*Artemisia* species  
*Artriplex* species

*Ballota nigra*  
*Betula pendula*  
*Buxus sempervirens*  
*Calluna vulgaris*  
*Crataegus monogyna*  
*Cytisus scoparius*  
*Erica* species  
*Genista* species  
*Ilex aquifolium*  
*Juniperus communis*  
*Lavatera* species  
*Ligustrum vulgare*  
*Pinus sylvestris*  
*Ribes* species  
*Taxus baccata*  
*TUlex* species  
*Viburnum lantana*

Strawberry tree  
Mugworts  
Salt / sage bushes / Oraches  
Black horehound  
Silver birch  
Box  
Heather  
Hawthorn  
Broom  
Heathers  
Greenweeds  
Holly  
Common juniper  
Mallovs  
Privet  
Scots pine  
Flowering currants  
Yew  
Gorses  
Wayfaring tree

### Bedding and Patio Plants

*Linaria* species  
*Salvia* species  
plus any of the perennials or ground cover plants.

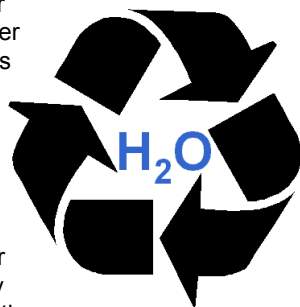
Toadflaxes  
Claries

## Rainwater and "Greywater" Recycling

Collecting rainwater from roofs or any flat surface is a wildlife friendly way of reducing water use. A water butt or several linked water butts can be used to collect water during wet periods. This stored water can provide enough water for the whole garden during dry spells. Butts should have lids to prevent the accumulation of leaves and other unwanted debris which will contaminate the water.

Another water recycling measure is to use "greywater" to water your garden. Greywater is water that has been used for washing or bathing. Bath water can simply be siphoned off into buckets using a hose. The washing machine outlet pipe can be connected directly to a watering pipe or to a water bucket. You can buy diverters which will allow bath or shower water to be diverted to hose pipes or storage butts. If you connect any system up to a water butt ensure you have a safe and sensible overflow system. Some dos and don't of greywater re-use are given below.

- Never re-use anywater that contains strong detergents, chemicals or household cleaning agents
- Never drink grey water
- Never re-use bathing water when a family member is ill or using a topical skin treatemnt
- Do not store grey water for long periods as it will go rancid more quickly than rainwater.
- Do not use grey water on edible crops.
- Always store grey water separately from rainwater and other water supplies
- Always clearly lable grey water
- Only apply to plant roots, do not apply to plant leaves
- Do not repeatedly water the same spot with grey water, spread it around the garden



## Soils, Composts and Mulches

Plants obtain air, nutrients and water from soil, so a good soil structure is essential for plant growth and health. Well rotted manure or compost can be dug into sandy and free-draining soils to retain more moisture and to add nutrients. Clay soils can retain water, so grit can be added to improve drainage. Manure or compost can be used to improve structure and add nutrients. Many new houses will have very shallow soils that provide a limited area for plant roots. If your soil is shallow dig a deep trench of 60 - 80 cm around the plant and fill it with soil and well rotted manure to provide a moisture retaining area for the roots to flourish.



Water evaporates from the soil surface, even when the soil structure is good. Mulches are light coverings placed on the soil to help keep in water and suppress weed growth. Mulches should be 4cm to 8cm thick and set a little away from plant stems to prevent rotting during winter. Mulches should be applied when the ground is wet.

Finely chipped bark or cocoa shells are attractive mulches as are pebbles and gravel. Geotextiles can be placed under bark or cocoa shells to increase improve water retention. Geotextiles allow the soil to breathe. Grass clippings and plastic sheets retain more water than the afore-mentioned mulches but do not let water penetrate, and prevents the soil from "breathing". To overcome this problem this kind of mulch can be removed in winter and applied in summer.

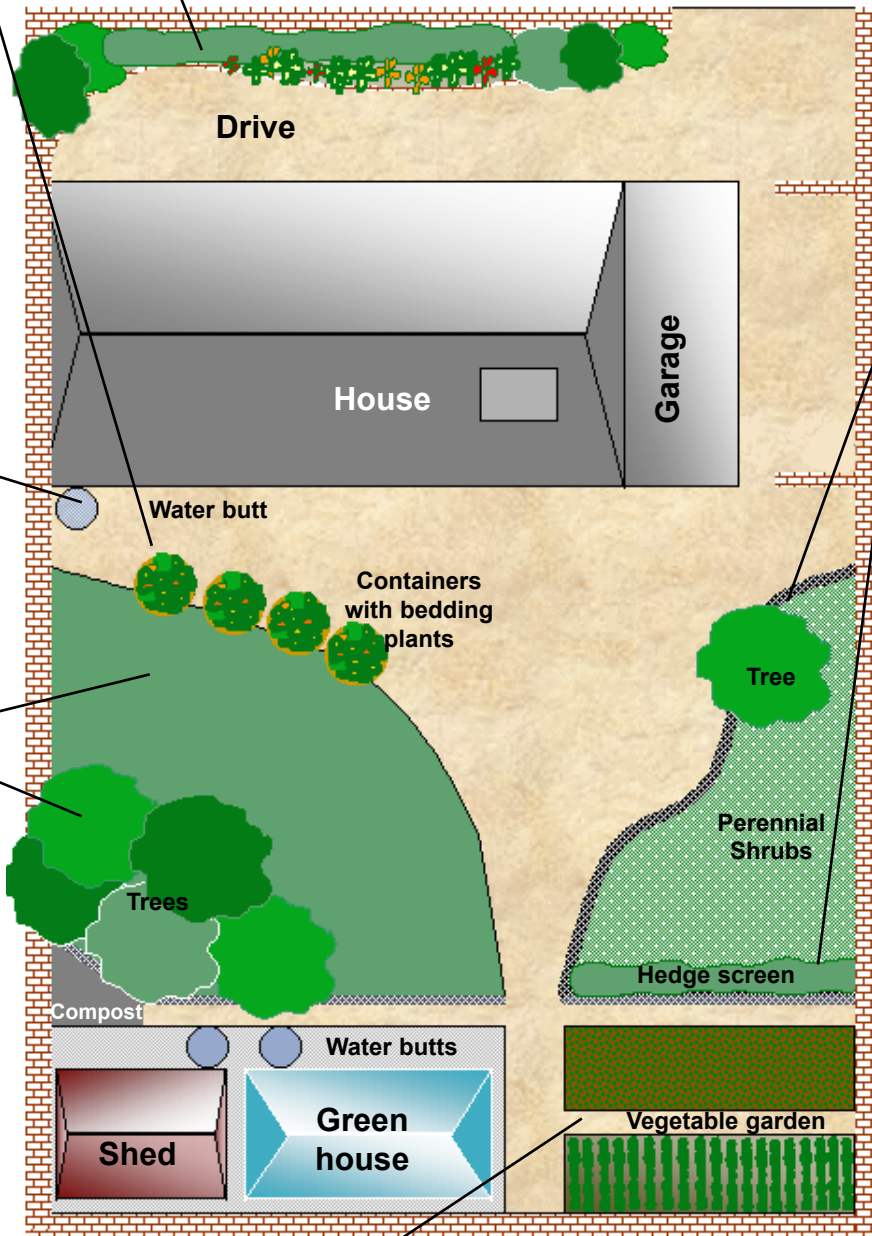
### Sunny Border

After cleaning all the weeds from the ground, a water impervious ground sheet (such as polythene) or preferably a geotextile membrane can be used to cover the ground. Sun-loving plants especially plants with silver-leaves such as sea holly can be planted in slots cut through the membrane. The area between can be mulched with gravel. Low growing ever-greens can be planted at the rear of the border to provide shelter from any wind.

### Patio

Pots and containers dry out more quickly than garden soil. Large containers loose water more slowly than many small containers. Plastic pots retain water better than traditional terracota pots Grouping containers together can create a damper microclimate reducing drying in pots.

Water butts next to any roof surfaces can collect rainwater. At least one at water butt at either end of the house is usually practical



### Trees & lawn

Trees should be medium sized, fruit trees are a good idea as they have a low growing habit. The lawn under the trees can be interspersed with bulbs and flowers. This area can be treated as a wildflower meadow and cut in late summer. The mowings can be composted. Both grass clippings and compost can be used as mulch.

Leaving the grass slightly longer causes a layer of moisture to be trapped at the grass roots. This protects the lawn from drying during summer and reduces the need for watering.

### Hedge and Trellis Screens Around Shrub Garden

Hedges, though they use more water than walls or fences, are infinitely preferable as they provide such good wildlife habitat. Climbers, chosen to cover walls, trellis and fencing must be mulched to reduce their water requirements. Climbers such as hop and especially ivy can produce shade spaces ideal for shade loving shrubs.

Many shrubs are low maintenance and require only a little pruning once established. Plants such as thymes, broom and heathers require very little water, especially in a well mulched bed. Avoid thirsty plants such as hostas and azaleas.





### Vegetable Garden

It is particularly important to mulch the vegetable plot and ensure good soil structure with lots of compost and manure. This will protect the soil as the plants establish, increase moisture retention and increase productivity. All plants, including vegetables, need to be well watered at sowing and planting out times. Not all vegetables are the same, some crops such as lettuce, celery, cabbage, cucumbers, tomatoes, marrows and leeks and are very thirsty and need watering throughout the growing season. Other crops like asparagus, beetroot, carrots, onions, parsnips, turnips, rhubarb, shallots, sprouting broccoli and swedes require comparatively little watering.

Some crop plants require watering at key growth stages:  
When sweetcorn have tassels on the corn cobs and potatoes are flowering their fruits are about to swell and the plants need plenty of water.

## How to Water Your Garden

Whichever watering system you use it is important to remember a few simple rules:

-  The best time to water the garden is in the evening as this reduces evaporation.
-  Plants need water at the roots, watering the leaves wastes water.
-  Soaking the ground if the soil is free-draining or sandy will waste water, since the water will drain past the roots before the plants can use it. Improving the soil structure with well rotted manure may help retain moisture.
-  If the soil is a heavy clay or easily compacted, the summer sun can turn the top layer into a solid crust. Water applied to the surface will simply run-off and form puddles on the surface, never reaching the roots. For these types of soils it is best to improve the soil structure with manure and grit.

Systems that spray water such as sprinklers use huge volumes of water over large areas, most of which is wasted as it evaporates or drains away. Indiscriminate watering can encourage weeds. Micro or mini-sprinklers are miniature sprinkler heads attached to a tube. These also water indiscriminately and are even more prone to evaporation than traditional oscillating sprinklers. A well directed hose pipe is more water-efficient.

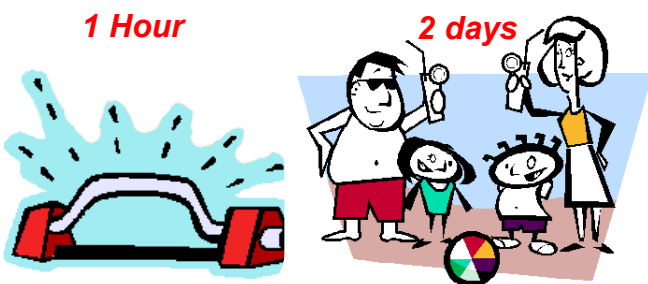


**The best time to water the garden is the late evening, after the sun has set.**

Systems that feed the roots directly are much more efficient than sprinkler systems. The humble watering can can be used to target the area around plant roots. Watering cans are ideal for small areas, individual plants and containers. For individual plants an upturned plastic bottle can be used to drip feed roots. For larger gardens a spray gun on a hose pipe can help the gardener water plants at the base of the root.



Best of all are systems, such as seep or drip hoses, that water roots directly and slowly. These hoses can be wound between plants. Seep hoses are simply porous and the water seeps out of the hose sides for a fixed time. In drip irrigation systems the water drips out of holes in tubing. These systems can be adjusted to supply water at different rates for different plants. Combining a drip/seep hose system with a mulch increases the water retention and helps stop the hoses becoming blocked or clogged by soil. You must by law fit an anti-siphon device to your tap when using outdoor watering systems. This is a one-directional valve that stops dirty garden water from being siphoned back into your clean drinking water!



**Leaving a sprinkler on for an hour can use the same amount of water as a family of four uses in two days!!**

## Suppliers

It is a good idea to phone your local council or water company as they sometimes provide subsidised or low cost water butts and other water recycling equipment. Check out the yellow pages, your local garden centres and websites for the best deal. The following companies provide a wide selection which can be ordered on-line.

Syndprodo Plantpak Ltd  
Burnham Road, Mundon, Maldon, Essex. CM9 6NT  
Phone: 01621 745500  
Fax: 01621 745525  
[www.ishop.co.uk](http://www.ishop.co.uk)

Capital Gardens Ltd  
1 Townsend Yard, Highgate Village, London, N65JF  
Phone: 020 8348 5054  
[www.capitalgardens.co.uk](http://www.capitalgardens.co.uk)

Ward Garden Products  
Wolseley Road, Kempston, Bedford, UK, MK42 7UD.  
Phone: 01234 848200  
Fax: 01234 841037  
[www.uk.gardenweb.co./directory/wardqua](http://www.uk.gardenweb.co./directory/wardqua)

## Information & Advice

Further information on water wise gardening and water saving technology can be found in:

Waste-free watering. Gardening Which? July 1997

The Water Saving Garden. Wessex Water

Creating a "water wise" garden. South West Water



For further information on the conservation of water and wetland species and habitats please contact:

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