

DROUGHT-TOLERANT Gardening

No plant can be planted and forgotten, but you can practise drought-resistant gardening. It is not just about plants that have similar watering needs anymore. *Xeros* is Greek for “dry” and Xeriscaping literally means “dry gardening”. This technique uses plants that tolerate limited water and local conditions, and includes avoiding water loss from evaporation and run-off. All plants require water at some point in their development, especially for the first few years after planting and in spring to prepare them to withstand summer heat and drought. Drought tolerance is much greater in plants that are well established in the place where they are to grow.

With careful selection, planning and execution, drought-tolerant landscapes can be as pleasing as those needing heavy irrigation.

GET THE SOIL RIGHT THE REST IS EASY

The best place to start is with your soil. Improve your soil by digging in organic matter whenever possible. Be sure to mix it with existing soil so root growth can extend deep into the earth. Deep incorporation of organic material such as well-rotted compost will help reduce downward drainage (percolation) if done before planting. Organic matter also absorbs many times its own weight in water, which is then available for plant growth. There are a few drought-tolerant plants that thrive in unamended soil so plant these together in the less fertile areas of the garden.

Mulches can be organic (shredded leaves, bark, sawdust) or inorganic (gravel, plastic). Mulching an area lowers the soil temperature and decreases the loss of moisture due to evaporation. Mulches create texture in the landscape and when organic mulches decay, they add nutrients to the soil. The appropriate depth of the mulch is important: 5–8 cm (2–3 in.) for trees and shrubs, and 2.5–5 cm (1–2 in.) for vegetables, annuals and perennials.



Front cover:
Sedum spectabile
'Herbstfreude'.
PHOTO: Janet
Sawatsky.

A good covering of mulch will control weeds and provide nutrients. This will lower moisture and nutrient competition with other plants, and the desired plants will be less susceptible to diseases, insects and drought. Careful preparation of soil to meet plant requirements will allow development of a landscape full of color and texture while reducing water requirements.

Good soil with lots of organic matter and mulch is one of the most important foundations for most areas of your garden.



Sedum erythrostictum 'Mediovariegatum'. PHOTO: Vic Bentley

GROWING CONDITIONS

A microclimate is a local atmospheric zone where the climate differs from the surrounding area. Factors that define a microclimate include exposure (to wind, sun, frost) and the water-holding ability of the soil. Microclimates can occur in as small an area as your garden and should be considered when planning and designing your landscape. First, define your microclimate and group plants together according to their watering needs.

Start with three water-use zones: very low, low and moderate. Each area can be irrigated separately according to the specific water needs of plants.

Very Low Water Zone

This area is typically the furthest from a water source. Choose plants for this area that require little or no supplemental irrigation. These plants may actually show stress in years of abundant rainfall.

Low Water Zone

Plants chosen for this area might require more water than is available naturally. Supplementing the water supply will become necessary during a severe drought.

Moderate Water Zone

Depending on water restrictions and your overall commitment to a drought-tolerant garden, keeping this area small will help limit your water needs. This zone will require the greatest ratio of water in the landscape other than your lawn if you have one.

Soil type, wind and exposure to sun can create a dry microclimate even in an area that receives heavy rainfall. In locations with poor drainage and heavy soils, many species chosen for their drought tolerance may suffer during years with average or abundant rainfall. Wet winters and spring rains may also cause problems for some drought-tolerant plants growing in heavy soils.

In times of drought, using recycled household or gray water helps ease water usage. Gray water should be free from oils, food scraps and bleach. Mixing it and fresh water (half and half) is ideal. Gray water should not be used on root crops or potted plants or as a plant's only source of water. Saving rainwater from roofs in cisterns and rain barrels also lessens the burden on community or well water. Well-established gardens will require less supplemental irrigation during drought than newly planted areas.



Sempervivum arachnoideum. PHOTO: Vic Bentley



A dry garden area on Saltspring Island. PHOTO: Barry Roberts

PLANT CHOICES

When choosing plants for your drought-resistant garden you must consider the climate zone that you live in. Zones are largely based upon temperature ranges and humidity but do take into account other geographic and seasonal factors. A simple definition is by minimum temperatures.

Plants native to a particular region or to regions with similar climates and soils are sometimes good choices. Most native plants in British Columbia like well-drained soils and many are naturally drought-tolerant.

Certain types of plants have a number of strategies for coping with drought:

- Silver or gray-leaved plants reflect some of the heat of the sun's rays, helping them to cool down.
- Plants with felt-covered or hairy leaves cut down on the wind striking the surface, slowing evaporation by holding humid air close to the leaf.
- Succulents conserve water by having fleshy, water-storing tissues in their thick leathery leaves.
- Waxy leaves slow the rate of evaporation of water and some plants have the ability to roll up their leaves, reducing surface area and closing the stomata.
- Some plants store extra water in their root system, in special rhizomes or tubers, in case of drought during the growing season.

A list of drought-tolerant plants that will thrive under average conditions in the Metro Vancouver area can be found at www.cityfarmer.org/boulevardplants.html. A list of drought-tolerant plants suitable for the Okanagan and Central Interior can be found at www.summerlandornamentalgardens.org/xeriscape/plant-list.htm.

In the Interior and Northern areas of British Columbia native plants make a good choice for drought-tolerant areas of the garden but many non-native plants are also suitable. Check with your local nurseries for suggestions but be aware that what is sold there is not necessarily the best choice for all gardens. Everything depends on soil and exposure.

LAWN USE

Try to limit the area of your garden dedicated to lawn, as lawn require high amounts water in order to look good and stay healthy. Plant your lawn only on level ground, to reduce any run-off. Fescue mixes offer good heat and drought tolerance. Cut the grass at a height of 6–8 cm (2.5–3 in.). Longer leaf blades help to shade and cool the ground, thereby reducing evaporation from the soil and lessening the need to irrigate.



Sedum erythrostictum 'Frosty Morn'.
PHOTO: Vic Bentley



Pot of mixed succulents.
PHOTO: Janet Sawatsky

THE BENEFITS

Some gardeners design a drought-tolerant garden to be environmentally conscious. Others choose it because of the particular landscape they are working with or for lifestyle considerations. No matter what brings you to this choice, you will benefit with lower water bills and a reduced dependency on water resources. Additional advantages of water-wise gardening are less time and energy spent weeding, mowing and maintaining the yard and an increased habitat for birds and insects.

Our climate is changing and with a little forethought we can still have a beautiful garden but also protect our precious and limited water resources.

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Association of British Columbia

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- presents gardening programmes in schools, hospitals and seniors' homes
- works with community groups on various "greening" projects.

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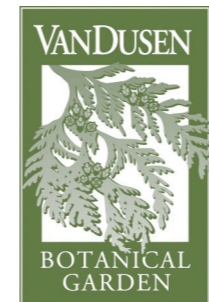
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