

What is a container water garden?

A water garden is a mini-eco system that contains a combination of water plants that finds an equal “balance” to prevent algae buildup. Algae are primitive forms of plant life and flourish in warm weather in water that is abundant in mineral salts. With sufficient underwater plants, competition for these mineral salts will allow algae, aquatic plants, and fish to live together to clarify the water to produce this healthy “balance”. Any container that holds water, such as a purchased plant container, an old tub, half a whisky barrel with an inserted plastic liner, or anything else you find interesting can be used to make your container water garden. It should have a dark colored interior which will add greater depth and will help discourage algae growth.

How to make a container water garden

Determine the location of where you wish to locate your container, as once filled the container will be too heavy to move. Locate your garden where it will receive a minimum of 4 to 6 hours of sunlight and near a water source as water will need to be added periodically. If an aerator is going to be used, an electrical source will be necessary. Choose the appropriate plants for the location as some plants will have more vibrant color and will perform better in sun rather than part shade. When placing your plants in the container, carefully follow the

depth required determined by its growing habits in water. Some plants simply float on the surface, others are completely or partially submerged, and some are planted in pots of soil and submerged with their foliage above the water line. You may need bricks, pebbles, or some other choice material to elevate your planted pots to the proper level. In general most potted plants should be placed 3" to 6" below the surface of the water. Your water garden, in zone 6 areas, can be assembled in early May with perennial plants that are actively growing while others follow when the weather warms in late May. Fish should not be introduced until temperatures reach 50 degrees nighttime; otherwise, they may go dormant and cannot properly process food.

What plants are in a water garden?

To maintain a proper "balance" where plants are not competing with algae, three categories of plants are highly suggested.

The submersibles or oxygenators are plants that add oxygen and have the greatest influence on the condition of the water as they absorb excess nutrients or mineral salts. Oxygenators are usually purchased as clump forming plants or cuttings fastened together with a lead weight or rubber band that should be planted properly in a growing medium if needed so they can prosper. When calculating the number of submerged

oxygenating plants, allow one bunch of cuttings bundled for every one square foot of surface area. Examples of oxygenators: 1) e-ger-e-a den-sa (*Egeria densa*), **Anacharis**, the most popular submersible plant is sold as cuttings which have green whorled leaves with long branching stems that look like seaweed, and can float submerged without a growing medium. One bunch is sufficient for 20 gallons of water. 2) mee-ree-oh-FIL-lum pro-ser-pin-a-coides (*Myriophyllum proserpinacoides*), **Parrot's Feather**, is a partially submerged feathery foliage plant with blue green finely cut leaves, which is a natural for container gardens as it prefers shallow water.

Emergent or marginal plants help to block sunlight to prevent the over growth of algae. They are potted in a mixture of garden and heavy clay soil with pebbles or pea shingle added on the surface to prevent the plants and soil from floating away and to prevent fish from disrupting the soil looking for food. Always plant a single species in each container as mixed plantings end up in an unsightly tangle. Marginal plants are submerged in their pots 3 to 6" below the surface of the water with their foliage above the water line and are grown for variety, color, fragrance, and flowering. They include reeds, rushes, lilies, and foliage plants, many in variations of color, texture and height. When planting marginal plants, it is important to introduce these qualities to add interest and to remember "thriller, filler, and spiller". Examples of marginal

plants: 1)pon-tuh-DEER-ee-uh kor-DAY-tuh (*Pontederia cordata*), **Pickereel Weed**, produces many stems each consisting of an oval shiny green leaf and a leafy bract which produces a spike of soft blue flowers during late summer. 2)hoo-TY-nee-uh kor-DAY-tah var-i-ga-ta (*Houttuynia cordata* 'Variegata'), **Chameleon Plant**, is an easily grown creeping plant with dark purple/green leaves splashed with yellow and cream with small creamy white flowers.

Floaters are plants that block sunlight which prevent the overabundance of algae, cool the water for fish, and add a nice finishing touch. They are not planted in soil, but merely float on the surface of the water with their tentacles of roots dangling downward. They usually reproduce quickly in the summer and have to be divided, removed, or shared periodically during the season. To achieve an even balance of floaters, 60% of the surface area should be covered with free-floating aquatic plants. Examples of floaters: 1)ike-HORN-ee-ah KRAS ih-pays (*Eichhornia crassipes*), **Water Hyacinth**, have dark green shiny leaves with inflated bases that float on the surface of the water. The flowers produced are orchid looking blossoms of blue and lilac with a bright peacock eye. It is regarded as one of the loveliest of all cultivated aquatic plants. They multiply by sending out runners with babies attached. Just snip the runner to remove or share the babies. 2) uh-ZOLL-uh car-o-lin-e-an-a (*Azolla caroliniana*), **Fairy Moss**, are tiny floating fern like

plants, bluish green or purplish red in color which congregates in large patches. They multiply rapidly and can be scooped out to bring them into the 60% surface ratio desired.

Do I Need an Aerator?

An aerator is a low flow pump powered by electricity sitting at the bottom of your water container with a hose attached shooting water into the air which will provide extra oxygen if fish are introduced. A source of electricity is needed which should be installed following safety precautions. Aerators come in different sizes and sprays and should be purchased according to the size of the container and the volume of water desired. One will offer you the soothing sound of moving water to the ear.

What about Fish?

Introducing fish is optional, with submerged plants and an aerator adding a supply of oxygen needed. The leaves of plants offer a suitable place for the deposition of spawn and a respite from the bright summer sun. The fish in turn reciprocate by depositing organic matter rich in plant foods. Fish will need to be fed, but will nibble on certain aquatic plants and will consume mosquitoes and their larvae. Introduce fish in the ratio of 1-2 inches length of fish per square foot of water

surface. Before introducing fish, allow a freshly filled container to sit for several days to allow chlorine to evaporate.

How to maintain a container water garden in season.

Maintenance of a container water garden in season is fairly easy. The water level must be checked daily and the aerator should never be allowed to go dry. The potted plants have to be inspected as they can become root bound. Simply remove from their container, trim the roots or divide the plant and repot. If the floaters multiply too rapidly, remove some of them to bring into proper ratio. Specialized aquatic fertilizer in solid form can be inserted into each pot midseason. Fish waste will also add fertilizer for use by the plants. The filter on the aerator should be cleaned periodically of debris. If the water becomes too cloudy or the algae is rampant, empty the container, clean and tidy the plants, and fill with fresh water. After filling, the water may be cloudy for a week or two, but will become clear once the plants and fish come into “balance”. You may purchase a product that will keep algae in check and follow the label’s directions for use. When buying plants, purchase from a reputable dealer. Check the plants carefully for vigor, and inspect for the Great Pond Snail which has a voracious appetite for aquatic plants. The Great Pond Snail has a tall and spiraled shell 1” high with a fleshy, greyish cream body. They lay their eggs of jelly attached to the underside foliage of submerged

aquatic plants. Removal at an early stage helps in their control. Conversely, the Ramshorn Snail is highly recommended to control algae. They have a flattened shell which they carry on their back in an upright position. They are consumed by pond fish as a delicacy; therefore, over population is unlikely to occur. Maintaining a balance between water, plants, and fish should be rewarded with clear water, an abundance of plant textures, colors, and flowers ever changing as the season progresses.

When to disassemble your water garden.

Sometime before the temperatures turn too cold, your container garden will have to be disassembled, the plants winterized or discarded, and fish brought indoors. Plants that are hardy in zone 6 can be mulched in the ground in their pots, brought indoors and treated as houseplants, or put in a cool area such as a garage to allow them to go dormant. Check the plant's individual zone to determine which approach will suit you and your plants. Plants such as Water Hyacinth, Water Lettuce, and Fairy Moss (all floaters) are very tender and it's best to discard them and buy new the following season. Don't hesitate to try to over winter plants either in your garden or indoors. With luck and superior conditions they may survive. Have fun with your gardens and they will reward you with nature's beauty.

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