



Pond Plants

Thoughtful planning of a pond with some regular maintenance will make an attractive and healthy ecosystem attracting wildlife into your garden. Water, minerals, waste, sunshine, plants and animals if well balanced will result in a healthy pond.

Position

The majority of pond plants require a sunny position to thrive. A site that collects water after rain should be avoided, as it may cause flooding into the pond and muddy water. An even water temperature is best for the pond's inhabitants so avoid a position which gets cold winds.

Leaves dropping in the water will rot and foul the water so unless you want to scoop them out on a regular basis avoid overhanging branches.

Fountains and Waterfalls

The sound of water is relaxing in the garden and will help to put oxygen in the water which will help the fish to breathe, but it isn't necessary to have fish in a pond if you don't want them. Splashing water also increases the speed at which carbon dioxide is released into the water. Water lilies and their flowers as well as some other water plants may be damaged by splashing water, and the water current, solve this by keeping an adequate distance between plants, pump, fountain or waterfall.

Water Depth

Ideally ponds should be at least 45cm deep but can be more than a meter. Bricks can be placed under plant pots so the plant is at the correct height. The water depth and surface area of water is of importance. Shallow water in our tropical climate will cook both plants and fish (and cause algae bloom) during the day and at night the water temperature will quickly drop. The smaller the temperature fluctuation for fish and plants the better. Some water plants such as water lilies require some depth of water if they are to grow successfully. Fish also will need depth of water to hide from predators and from the tropical sun.

Plant Selection

There are four types of plants necessary for a healthy pond. Plant coverage should be 50-70% of the surface. Oxygenators at the bottom of the pond, Floaters on the surface, Marginal or bog plants and Submersibles such as water lilies.

Oxygenators - underwater plants 40cm or more in water depth

These benefit the pond in that they grow quickly and absorb dissolved mineral salts through their leaves competing with the algae for food. So with **water lilies** to cut out the light (the leaves cover the water's surface) and **oxygenators** to take the food the algae dies and the pond water stays clear. They are a necessity for clear water in a pond. They also provide hiding places, spawning areas, and food for goldfish. Example - Elodea.

Floating Plants

Floating plants provide shade and protection from birds. They feed through their roots which are suspended in the water. By shading the water and using the nutrients in it they contribute toward suppressing the algae.

Fish use the root mass of some types of floaters for spawning. Examples of floating plants are Duckweed, Fairy Floating Moss and Water Lettuce.

Marginal plants and bog plants - 0-20cm depth

Pond plants that stand in shallow water with the pot just covered by water and have their leaves and flowers out of the water are called marginals. They are best in their own pots and filled with a premium potting mix, topped with small pebbles. Examples of marginal plants include Fishbone Water Fern, Iris flag, Japanese Iris, Egyptian Paper Plant, Umbrella Grass, Sedge, Sweet Flag, Water Cress, and Water Mint, Tassel Rushes.

Submersibles - 40cm or more in water depth

These plants have floating leaves, the water lily is a good example of a submersible, having floating leaves and flowers. They can be placed in any vacant spot in the pond (ensure the plant is in the correct depth of water). They provide shelter for the fish, produce oxygen and their beautiful flowers add colour! They should be planted in potting mix for pond plants and the soil surface covered in small pebbles so the soil doesn't float off. Water Lilies provide flowers over a long period of time and the leaves spreading over the surface cut out the light to the water helping reduce algae. Removing old flowers and leaves every two weeks is recommended. Examples of other surface plants with smaller leaves include Nardoo, Water Poppy, Water Fringe and Water Hawthorn. A well designed water garden will have plants from all of these categories. By having plants from all four categories your water garden will have a more balanced ecology, as it occurs in nature.

Algae

There are over 17,400 different types of algae! The two harmful types are - Plankton Algae or Filamentous Algae. However not all algae is harmful, the short velvet type that clings to rocks and the sides of the pond is beneficial. This type of algae provides oxygen during the day, fish nibble on it, and it uses nutrients from the water. It also provides a nice natural look to the pond. Concrete ponds if not sealed can leach lime affecting the pH level and cause algae problems.

Livestock

When the plants have been put in the pond allow at least two weeks for them to get established. This is especially important for oxygenating plants that many fish will nibble on (they may do too much damage to your small plants). **Goldfish, Comets, Moors, Fantails or Shubunkins can be established in the pond with ease.** Fish will eat some types algae, and insect larvae, so they help to keep the water clear and control mosquitos. Over feeding your fish with fish food will cause a build up of nutrients which will contribute to algae problems. Only feed enough food that will be eaten in a few minutes. To work out how many fish to add - the length of fish if put end to end should total 25cm per square meter of water, keeping in mind that fish grow! Too many fish may require a Biological Filter with an Ultraviolet Steriliser to control algae caused by too much fish waste.

Native fish are a popular choice but should not be mixed with goldfish. Native fish suitable for ponds - **Rainbow, Perch, Cod, Bass, Saratoga, Gudgeons, Barramundi and Hardyheads.**

Koi Carp are magnificent fish but are not the best for a pond with plants. Aquatic snails can be added to eat the algae but if there are too many they may start eating your plants. When adding fish to the pond float the bag with the fish in it on the top of the water for half an hour before releasing them. The bags water temperature will adjust over the half hour to that of the pond water so the fish do not get a shock from a change in the water temperatures which can cause the fish to get disease.

Evaporation will occur, keep the pond topped up so a lot of water does not need to be added at once causing a drop in temperature, this can also cause problems for fish and plants.

Potting up pond plants

Water plants will require repotting every two to three years, depending on how well they have grown. If the roots are pushing through the bottom of the pot or the leaves are making the pot tip over from their weight it would be a good idea to repot.

Potting water plants into a larger container or dividing them into smaller pots is easy to do. Just remove any unhealthy plant parts, such as old or rotten leaves or roots. Hosing the roots off is an easy way to remove the old dirt and loosen the roots, and if necessary cut through the roots & trim. Pot the plants into a special mix designed for pond plants. Normal potting mixes have too much fertiliser and will cause problems for the pond pump, water discolouration and algae.

When repotting put a pond plant fertiliser tablet in the pot. Tablets last about two months and are easy to push into the soil later when it is in the pond. Put **small pebbles** on the top of the pot so the soil and plant stays in place when lowered into the water.

Maintenance

When the ponds ecosystem is balanced there shouldn't be any major problems with algae. So it is unwise to 'clean' the pond out, this could result in an unfortunate change in the balance of the ecosystem. After a few years it may be necessary to take some of the sedge that has built up in the bottom of the pond. If the pond has to be completely emptied (perhaps because of a leak) it is recommended that some of the sedge and the original water is kept for when the pond is refilled, this is so the good micro-organisms and other pond life is not completely lost and this should speed up the balancing of the eco-system.