



WATER GARDENING 101

Ponds Styles

Fish Pond: Features fish (usually Koi and fancy goldfish) and has few plants, thus requiring high degree of mechanical filtration to keep the water clear.

Water Garden: Many plants, covering 60-75% of water surface, perhaps a biological filter to keep water clear. Usually contains fish as well.

Pond Liners

Installed Above Ground: pots without holes, tubs, buckets or barrels

Installed in the Ground: preformed rigid liners, liner fabrics, concrete, block or brick

Where to Put a Water Garden?

Where you will enjoy it the most. Away from trees/ roots/leaf debris. In full sun.

Electricity : Safe access to run pumps and/or filters, if desired

Depth : Minimum of 18", 24"--deeper is better for fish

Filters, Pumps, Aerators

Not absolutely required, but help keep water clear and aerated to benefit fish, especially in the summer evenings when oxygen depletion is greatest in the water.

Filters: Clean the water — either mechanically or biologically. (Needed with CAP water, or treat water with chloramine remover before adding to pond).

Pumps: Circulate the water, creating sound and aeration of the water. Do NOT use "oil filled" or "oil cooled" pumps — these can overheat and foul the water.

Aerators: (like aquarium air pumps) add oxygen to the pond, benefiting fish.

Water Plants

In order to bloom, waterplants generally need 4-6 hrs of sun. Waterplants multiply rapidly and divide easily.

Some favorites are:

Hardy Water Lilies

Tropical Water Lilies: need special winter protection

Papyrus: Giant, Dwarf, Mini & related Umbrella Grass

Taro: Giant Elephant Ear, variegated, black, red/green, green

Floaters: Water Hyacinth, Water Lettuce, Azolla, Frog Bit, Duck Weed, Water Moss

Iris: Pseudacorus (water flag), variegated and plain; Louisiana Iris (swamp iris)

Water Snowflake: white or yellow fuzzy, star shaped flowers

Parrots Feather: snaking green "whorls", both under & above water

Hottunia cordata: pink/white/green variegated leaves

Rushes: Pickerel Weed, Flowering Rush, Corkscrew...many more

Underwater grasses: important oxygenators

Water Nasturtium

Water Poppy

Water Clover

Water Cana

Horsetail

Cattail: Giant & mini

Lotus



Potting up Waterplants

Do NOT use a rich soil, heavy clay based top soil works fine but unscented kitty litter which is just clay is very easy to obtain and work with. Top with pea gravel to contain soil — and a large stone to anchor new plants (such as water lilies) until roots are established.

Fertilize with “pond tabs” monthly or apply a time release fertilizer such as Osmocote when potting up.

Use black plastic nursery pots or special “webbed” waterplant containers. Gently place pots in ponds by TIPPING them slightly as you submerge them to prevent disturbing soil.

Fish

For each 1 sq. ft water surface you have, you should have 1” of fish- (a rule that is constantly broken!)

Goldfish: The most common variety for ponds. There are many beautiful color combinations and they breed easily in a pond. There are many types of goldfish/carp — but avoid short bodied ones — it is difficult for them to compete with other fish or escape predators.

Koi: These are the “superstars” when it comes to water gardens. They need heavy filtration, crystal clear and balanced water, and like to uproot plants. They will grow to be extremely large — 20” or more.

Feeding: Goldfish can easily live off nutrients, insects, algae in the pond. However most people like to feed them. Can be trained to eat from your hand. Do not feed more than fish can eat in about 5 minutes. Treats are brine shrimp, shredded zucchini!

Algae

The best way to keep water clear is to have 60-75% of the water surface covered with plant material.

Free floating algae make the water appear “pea soup green”. Flocculent or coagulants like “Crystal Pond” or “Clear Pond” will help free-floating algae clump together and fall to the bottom of the pond. Check the label to be sure the product safe for fish, plants and biofilters!!

String or Hair Algae floats, usually from the side of the pond, and when removed and dry, resembles fine string or green hair. Barley Straw (available at feed stores) in a nylon stocking, weighted down at the bottom of the pond will help reduce/prevent String Algae.

NEVER empty and refill a pond to “get rid of green water” ... you’ll just be starting out with new nutrients for MORE algae! Be patient!!

Do not scrape all algae off pond sides, it’s beneficial and a food source for fish and insects.

Mosquitos

Fish will eat mosquito larvae. If you don’t have fish, use Mosquito Dunks, a BT that kills the larvae before they hatch. Dunks look like small 2” donuts, can be broken into small bits or chunks, and used in the pond, pot saucers, areas where water stands or collects. It is safe for fish, plants, pets, people!

Frogs will also eat lots of mosquitos, however don’t encourage Colorado River Toads to take up residence if you have pets. Bats also eat great quantities of mosquitos.