

Water Garden Plants

1. **Oxygenators:** Planted and submerged underwater; Oxygenators assimilate nutrients through their leaves & release oxygen back into the water. **Benefit:** Help with equilibrium of water & naturally keep algae at bay.
Notes: Oxygenators can grow quickly – should be submerged with rock – submerge a few weeks after pond has been created but before fish are added; May – Sept.
2. **Bog Plants:** Sit up on ledges around the perimeter of your pond or in very shallow areas; add aesthetics. There are a lot of options for color, size & shape. **Benefit:** Naturalize the landscape; attract insects & frogs. Can add shade to block excessive sunlight, preventing excess algae. Shallow planted plants can absorb excess nutrients from pond water.
Notes: Can be hardy or tropical – keep roots wet
3. **Lilies & Lotuses:** Grows completely in water; pot underwater and keep top leaves exposed in the beginning – gradually sink pot to bottom. **Benefit:** Provide visual protection from predators. Provide shade to keep water temperature down and algae low.
Notes: Can be hardy or tropical, night or day blooming
4. **Floaters:** Entire plant and root system float on the water. Add interest and texture.
Benefit: Provide shade and algae control. Provide shelter to fish; some have edible roots
Notes: Should be thinned during growing season

Bagging & Transporting Fish

1. Fill bag with 1/3 water and 2/3 air space
2. Avoid fitting too many fish into 1 bag
3. Float bag for 30 minutes upon arrival to acclimate temps
4. Need to ensure pond water is neutralized – for both **ammonia** and **chlorine**
 - Use Aquascape Pond Detoxifier to eliminate ammonia (unlike chlorine, ammonia will not naturally dissipate and must be chemically neutralized)
 - Use API Stress Coat to remove chlorine (and ammonia)
5. If water is not neutralized, you will notice an immediate reaction in your fish & they likely will not survive 24 hours. Metallic water will burn fish lungs and they will gasp for air at water surface.
6. Neutralizing agents work immediately and can be added to water while fish are floating in bag before release.

Pond Timeline

1. Ponds stay open mid-April to mid-November
2. At **opening:**
 - Manually clean as much debris away as possible
 - Once temperatures reach 50 degrees, start pump and filter system; gradually start feeding fish
 - Test water for pH and ammonia (we do this for free at BFG)
 - Condition fish – options for pond salt, Melafix or Pimafix
 - Start to add plants back to the pond/landscape
3. At **closing:**
 - Manually clean away as much debris as possible; prune plants to avoid extra decay in water
 - If shutting down pond, remove pump, filter & UV clarifier and store in safe place
 - Add cold water bacteria
 - Stop feeding fish when temps drop below 50 degrees
 - Cover pond to keep away debris and predators - **We do sell pond de-icers**

Ponds : Necessary Parts

1. **Liner**: Preferable over pre-forms; life-span of 15-20 yrs; 45 mil rubber thickness
2. **Fish or No Fish?** Before digging out the area, decide whether or not you will house fish in your pond. Ponds with fish should be at least 2' deep (closer to 3-4' for koi).
3. **Pump**: Your pump is the heart of your system. It must run continuously to recirculate at least half the volume of your pond each hour. You will need more capacity depending on the kind and amount of fish kept, and the size and height of your waterfall. For example, koi ponds require a flow rate that is twice the gph as the pond volume.
4. **Filter**: The key to maintaining healthy water conditions is a multi-stage filtration system. Bio-filters house bacteria colonies that recycle waste products like ammonia, mechanical filters and skimmers strain out debris, and chemical filters help remove unwanted minerals and dissolved organic compounds.
5. **Skimmer**: Typically camouflaged in the ground next to your pond, a skimmer box draws leaves and debris from the pond surface, helping prevent clogs in other parts of your system. It is the perfect place to conceal your pump, and affords easy access for maintenance.
6. **UV Clarifier**: Easy to install in-line, a UV clarifier economically sterilizes water, reducing bacteria and parasites that can cause fish disease. Clarifiers also help clump free-floating algae, making it easier for your mechanical filtration to get the green out.

Ponds: Optional Parts

1. **Aerator**: Circulates water while creating surface agitation, increasing oxygenation and helping prevent your pond from turning into a stagnant mosquito hatchery.
2. **Waterfalls & Fountains**: As the focal point of your pond, accents like waterfalls and fountains also promote circulation, aeration, and add pleasant sound to the scenery.
3. **Plants**: Plants don't just make a pond more aesthetically appealing, they are essential for maintaining a healthy, balanced ecosystem. Plants can naturally filter water, limit algae growth, regulate temperature and oxygen levels, and provide shelter for your fish.

Ponds: Necessary Controls

1. **Sludge Digester** : eats up debris from winter months
2. **Pond Perfect** : beneficial bacteria, starts biological action
3. **Pond Detoxifier** : Helpful when adding fish, neutralizing water and adding beneficial bacteria
4. **Salt** : pond or sea salt, no iodine, 1 cup per 100 gallons, doesn't go away unless adding water, especially important going into Winter months to help fish skin coats

Most all other controls are necessary on a problem or diagnosis basis, IE if there is a pH or ammonia issue. Additional controls may be needed for sick fish or problem areas in ponds

Important Notes

1. Length x Width x Depth x 7.5 = how many gallons of water a certain pond will hold
2. **Pond : Fish Ratio**:
 - **1 to 5 Gallon Ponds** – Offer a carefree way to enjoy small water plants up close.
 - **20 to 40 Gallon Ponds** – Get your feet wet. Provide a serene area for you to enjoy small to medium sized pond plants. You can also have a small pump and even a goldfish. Even better – they're easy to maintain.
 - **50 to 500 Gallon Ponds** – A great place to start, not a big commitment. However, not big enough for Koi. Consider handful of smaller sized fish.
 - **500 to 3000 Gallon Ponds** – This size will allow you to keep fish and a large variety of pond plants. 6-12 Koi plus mix of smaller fish is optimal.
 - **3,000 Gallon Ponds and over** - Many people find water gardening and fish keeping to be the hobby of their dreams and will invest the time and money to get the maximum enjoyment out of their water garden. With water gardening the only limit is your imagination. 15-20 Koi plus mix of smaller fish is optimal.