

# Marginal Plants

## **Hardy**

Hardy marginals are an important part of the water garden. They help to provide shade on the water, as well as provide a beautiful transition into the surrounding landscape. Hardy marginals are generally carefree during the entire growing season. All that needs to be done is remove any dead foliage and flowers, and fertilize them every 4-5 weeks (1 pond tab per gallon of soil). Winter preparation for hardy marginals is also easy. After a killing frost, cut back all foliage and flowers to a few inches above the pot. If it is a plant that is kept submerged in the summer time you will want to place it in a location that is kept submerged in the wintertime so that water will remain over the crown of the plant all winter. If it is a plant that takes moist conditions but not submerged pull the plant out of the pond and place it somewhere that it will not be subjected to extreme cold (such a root cellar).

## **Tropical**

Tropical marginals are a beautiful addition to any water garden. They usually provide us with a broader range of colors and foliage, and they usually bloom heavier than hardy marginals much like the annuals we plant in our flowerbeds. Tropical marginals are relatively easy to maintain. They like the water temperature above 70 degrees and to be fed every 2-3 weeks (1 fertilizer tab per gallon of aquatic soil). Remove any dead foliage and flowers as necessary and you will have beautiful plants all summer. They may be repotted into larger pots at any time during the summer. If you desire to winter over your favorite plant, you will need to prune back excessive foliage as temperature start to cool, than bring the plant inside (before the first frost) and place it in a sunny window. It is best if you place the plant in a bucket or deep saucer with an inch of water. It is very important that the plants not freeze, if it freezes it will die! In the spring return it to your water garden after the water temperatures reach 70 degrees.

## **Bowl Lotus**

Chinese bowl lotus are a little different than their big brothers and sisters. They will grow in a much smaller container (down to a 6" rice bowl) and they need a lot less soil (2-3" of soil covered by 3-4" of water). They are also different in feeding, they do not require as much fertilizer. Fertilize them every 4 weeks with 1 Pond tab per gallon of soil. Winter care is the same as the other varieties, but with one more option they can be put in a plastic bag and stored in the refrigerator.

## **Hardy Lotus**

Most people believe lotuses are not very hardy. This is just not true! Water lotuses are very hardy in our area and even further north. They are a beautiful addition to any water garden, as well as an excellent container patio plant. Summer care is very easy. Their needs are very simple: Remove any dead foliage and fertilize. A water lotus needs to be fed every 2-3 weeks with 2 Pond tabs per gallon of soil. Fertilizing is very important if you want your lotus to bloom and grow well. Aphids can sometimes be a problem on lotus but they are easy to dispose of. Hose spray will knock them off on to the water surface where your fish will enjoy eating them. Wintering a lotus is easy. Stop feeding the lotus 3 weeks before the average frost date. After the lotus has been hit by a couple of frosts, allow all foliage and flowers back to the soil level then remove them. Then sink the lotus down so there is 18 to 24 inches of water over the soil. If you are container gardening or your pond is not deep enough then you may store it in a cool dark place. Make sure to keep it moist during the winter and do not allow it to freeze. In the spring, place lotus in your pond 4 to 6 inches below the surface until they starts to grow. Remember lotus like warm water temperatures, so they may take awhile to start growing in the spring.

## Plants for Waterside and Bogs

There are plants which like soils that are constantly moist, even soggy in the case of some varieties. You should include them in your plans for the areas around garden pools.

Their roots need to reach the water. A bog garden is made by spreading several inches of soil over a depression that has been covered with liner. There are a surprising number of extremely attractive plants that are suitable for such sites.

Acorus  
Aruncus  
Astilbe  
Caltha  
Chelone

### Hardy Water Lilies

During the summer months you should fertilize your hardy water lily every 2-3 weeks and your tropical water lilies every 2-3 weeks with 1 Pond tab per gallon of aquatic soil. This will help lilies produce a larger leaf, and more blooms. Remove any dead or yellow leaves and flowers as needed throughout the summer. Pinch them off close to the plant crown. In the fall you will want to stop fertilizing your water lilies 3 weeks before the average frost date. After, a few heavy frosts remove all foliage and flowers down to the pot level and submerge your water lilies in 24 inches of water. If you are container water gardening or your pond is less than 18 inches deep, you have a couple of options; remove the pot from the pond and place it in a plastic bucket (it is very important to remove all foliage and flowers) and either store it in a cool dark place or in your refrigerator. It is very important that the tuber does not freeze. If the tuber does freeze, discard the water lily because it will not grow the next year. In the spring repot and divide the water lily as needed. Make sure to use aquatic soil and fertilizer (1 Pond tab per gallon of aquatic soil). Place the water lily back in the pond to a depth of 16-18 inches over crown.

### Tropical Water Lilies

Tropical water lilies are not as easy to winter over. That is why we usually treat these as an annual. If you decide to try to over winter your tropical water lily there are a couple of ways to do it. One is the distilled water method. After we have the first heavy frost, remove your water lily from the pond. Place it in a cool, dark place. Leave the foliage on the plant. After the foliage has died back (2-3 weeks), remove the water lily from its pot. Cut off all dead foliage and flowers. Now you need to remove all the soil from the water lily bulb (the bulb will be a hard, nut-like ball). Wash the bulb thoroughly, and then place it in a jar of fresh distilled water and keep it in a cool dark place. In the spring, simply pot the bulb 1 inch below the surface of some aquatic soil and place it back in the pond after the water temperature has reached 70 degrees. The other method is the down sizing method. Remove the water lily from the pond after the first frost, cut off all foliage and remove the plant from its pot. Trim back the root mass so it will fit in a 4 to 6 inch pot. Place pot in water, keep water temperature about 65 degrees.



## **Beneficial Bacteria**

We recommend the use of bacteria in your ponds and filters. They are can natural cleaners in our water that break down waste products which sink to the bottom of our ponds. Beneficial bacteria help also complete the nitrogen cycle in your pond, turning harmful ammonia and nitrites in your water to nitrogen that can be used by other plants. The bacteria that is typically used is a live bacteria liquid called Aqua One. With a monthly treatment plan you can reduce the amount of algae waste in your pond. If you stay on a regular schedule of adding bacteria to your filters, the bacteria will work more efficiently and you will be able to go longer between cleanings, thus reducing over all problems in your pond.

## **Formulas for a Balanced Pond**

**Formulas for a Balanced Pond:** For these formulas, as well as medicating or dechlorinating your pond, you will need to know how many gallons of water, and the water surface area of your pond. In using the following formulas you will need to use the average depth, average length and average width.

### ***How to Figure Water Volume***

How to figure water volume: Irregular shaped - length x width x depth x 6.75 = Gallons Round - diameter x diameter x depth x 5.9 = Gallons

Square or rectangle - length x width x depth x 7.5 = Gallons How to find surface area

### ***How to Find Surface area***

Irregular shaped - length x width = square feet of surface area

Round - radius x radius x 3.14 = square feet of surface area

Square or rectangular - length x width = square feet of surface area

### ***What goes in your pond***

Submerged Plants - 1 bundle per square feet of surface area

Plants - 1 water lily or 3 tall marginals or 5 short marginals or 6 floaters per 9 sq ft of surface area

Trap door snails - 2 per square foot of water surface area

Fish - 1" per 5 gallons of water