

## Basics of Planting Aquatic Plants

Aquatic plants are among the easiest plants to grow. Many aquatic plants are actually weeds in their native habitat. In cultivation, these plants are grown in containers. Some popular containers are dish pans, plastic nursery pots or specially made plastic containers for aquatic gardens.

A pond that is well balanced with plant and animal life does not require filtration. The larger the pond the easier it is to achieve a “balanced pond.” Usually the threshold is about 1,000 gallons to manage a balanced pond. The recommended size is 50 – 75 square feet and 18 inches deep. The smaller the volume of water in the pond the warmer it becomes. This actually stimulates excessive algal growth. A pond that is too small also limits the choice of plants. To reduce excessive algal growth (green water) there should be enough plants to cover at least 60 – 70 percent of the surface. These will compete with the algae for nutrients, and also provide additional oxygen for the fish.

### Potting Soil

Aquatic plants, unlike most other garden plants, actually do very well in heavy soil. Soil with a high clay content is recommended. A potting soil high in organic matter is not recommended because it will float out of the container and does not anchor the plant roots very well. Aquatic plants are heavy feeders and benefit from regular fertilization. Use the specially prepared fertilizer tablets. These are 10g pellets of fertilizer that have been compressed into a solid capsule. Insert them 2 – 4” into the soil along the outer edge of the plants at planting time and monthly thereafter.

### Planting Procedures

When working with aquatic plants keep the roots moist and protected from the sun. The foliage of water lily is very sensitive to drying out and should be kept moist during all stages of planting. When planting water lilies and other aquatic plants, be careful not to bury the growing point, or rhizome, too deep in the potting soil. This usually leads to the decline and eventual death of the plant. After planting, press the potting soil firmly around the plant and roots, and cover the soil with an inch of gravel or small stones. These will hold the soil in the container



*Dividing & planting*



and help to anchor the plant while it is rooting. Gently lower it into the pond allowing the pot to slowly fill with water.

Small spread: 1– 6 square feet.  
 Medium spread: 6 – 12 square feet.  
 Large spread: 12 plus square feet.  
 Partial Sun: At least 3 – 5 hours of direct sunlight.

### Hardy Water Lilies

Water lilies are the centerpiece of the aquatic garden. The flowers of hardy water lilies are available in yellow, pink, red, and white. Most are in bloom for much of late spring and then bloom sporadically until fall. During the growing season, the hardy water lilies should be 6 – 12 inches under water. During the winter, the growing point needs to be well under the depth of expected ice formation. It should be 18 inches deep, but usually 12 inches is adequate in central and southern Maryland.



Hardy Water Lilly



Radiant Red – Medium spread, tolerant of partial shade, fragrant, very red color.

Attraction – Medium to large spread, very large flowers, no fragrance.

James Brydon – Medium spread, tolerant of partial shade, fragrant.

Rembrandt – Medium to large spread, large garnet red flowers, slightly fragrant.

Gloriosa – Small spread, tolerant of partial shade, good cut flower.

Froebeli – Small spread, very dark wine red flowers, leaves marbled with red very fragrant.

Sultan – Small spread, cherry red flowers tip with white.

**Changeables:**

Sioux – pale yellow, then pink then deep orange flowers until fall – medium.

Comanche – apricot, then bronze – medium.

**Partial list of recommended varieties:**

**White:**

Gladstone – Medium to large spread, slightly fragrant.

Hal Miller – Medium spread.

Gonnere – Medium spread, not fragrant.

Hermine – Small to medium spread, tolerant of partial shade, slight fragrance.

Odorata – Medium spread, fragrant.

Marliac Albida – Medium spread, fragrant.

Queen of the Whites – double white, medium to large spread.

Virginalis – Medium to large spread, slightly fragrant.

**Yellow:**

Charlene Strawn – Medium spread, tolerant of partial shade, fragrant.

Chromatella – Small to medium spread, tolerant of partial shade, no fragrance.

Sulphurea – Small spread, mottled foliage, not fragrant.

Sunrise – Medium to large spread, slightly fragrant.

Texas Dawn – Medium to large spread, tolerant of partial shade, fragrant.

**Pink and Rose:**

Fabiola – Small to medium spread, slightly fragrant.

Firecrest – Medium spread, fragrant.

Arc En Ciel – Medium to large spread, fragrant, foliage variegated with rose, ivory, and bronze.

Gloire du Temple sur Lot – Medium to large spread, fragrant, has large double flowered blossom. This one can have almost 100 petals per bloom.

Marliac Flesh – Medium to large spread, vanilla fragrance, very good cut flower.

Pink Opal – Medium spread, fragrant, good cut flower.

Pink Sensation – Bright pink, fragrant, stays open long in the day.

Hollandia – Medium spread, double petaled, good cut flower.

**Red:**

Escarboncle – Classic crimson color, then drops as flower ages, up to 12" across.

**Tropical Water Lilies**

Tropical cultivars begin blooming when the weather becomes hot, about mid-June, and continue to bloom steadily until they are killed by the frost in late fall. Do not place them into your pond if the water temperature is at or below 70° F. If too cold, the plant will become dormant for 6–8 weeks, which greatly reduces the growing and flowering period of the plant. The colors of tropical lilies include deep red, yellow, pink, white, and blue. Their blossom size is much larger than the hardy types, ranging in size from 2" inches to 8" inches or more across. As an interesting comparison, the tropical flowers generally bloom 6–12" above the surface of the water while the hardy water lily flowers float on the top of the water. Most are very fragrant. Some cultivars open in the evening and stay open until mid-morning.

Since tropical lilies are handles as annuals, their overwintering depth is of no concern. Smaller pieces will grow best in shallower water, 3–8 inches, while the larger types will tolerate deeper waters, 6–14 inches.

An added attraction of most tropical lilies is their beautifully patterned leaves marked with deep red or brown. Many types of tropical water lilies are viviparous, meaning that they produce small plants along the surface or edge of their leaves.



Tropical Water Lilly

## Partial List of Cultivars:

### Day Bloomers:

#### Blue:

Blue Capensis – Medium spread, some speckling of foliage, periwinkle blue flowers, tolerant of water depth of 36 inches.

Blue Triumph – Medium spread, intense purplish blue.

Colorata – Small spread, excellent for tubs, abundant wisteria blue flowers

Leopardess – Medium spread, tolerant of partial shade, mottled leaves.

Margaret Mary – Medium spread, tolerant of partial shade, pale blue with viviparous leaves.

Pamela – Medium spread, mottled foliage, a soft blue color.

Wood's Blue Goddess – Medium to large spread, some leaves speckled, large sky blue flowers with dark purple stamens.

Blue Beauty – Medium spread, deep blue color, leaves slightly speckled with brown, adaptable to tub gardens.

Mrs. Woodrow Wilson – Medium spread, lavender blue flowers, viviparous leaves.

Blue Bird – Medium spread, plentiful deep blue flowers, viviparous.

Dauben – Small to medium spread, tolerant of partial shade, some foliage speckled, very viviparous.

#### White:

Marian Strawn – Small to medium spread, tolerant of partial shade, speckled foliage with large blossoms.

Mrs. George H. Pring – Medium to large spread, tolerant of partial shade, large flowers with lightly speckled foliage.

White Delight – Medium to large spread, speckled foliage with very large blossoms.

Alice Tricker – Medium spread, large with wide petals.

Ted Urber – Medium spread, blossoms medium to large with rounded petals, fragrant, adaptable to small or large ponds.

White Delight – Medium spread, sometimes has light pink petals, foliage lightly speckled.

#### Yellow:

Yellow Dazzler – Medium to large spread, flowers remain open until early evening, foliage speckled.

Aviator Pring – Medium to large spread, mottled foliage, deep yellow color held high above water surface.

St. Louis – Medium spread, large star-shaped blossoms, foliage mottled with bronze.

Eldorado – Medium spread, large lemon yellow flowers, foliage mottled, fragrant.

Golden Fascinator – Medium to large spread, flowers golden yellow, fragrant.

#### Purple:

Director Moore – Very dark violet, one of the most popular blue flowering tropicals, small to medium.

Panama Pacific – Small to large spread, tolerant of partial shade, speckled foliage, adaptable to tubs as well as large ponds, viviparous.

#### Rose and Red:

Jack Wood – Medium spread flowers are raspberry colored with a yellow center, heavy bloomer.

Martin Randig – medium spread, flowers are magenta rose with long petals, bloom heavily.

American Beauty – Medium to large spread, flowers reddish pink, large leaves with wavy margin.

Evelyn Randig – Medium spread, flowers deep magenta rose and very fragrant, foliage spotted with chestnut and purple.

### Night Bloomers

The night blooming tropicals are a special group worth incorporating into an aquatic garden because they are in full bloom by the time people arrive home from work. Blossoms remain open until mid-morning the following day. Many are also very fragrant, and their sweet scent will linger in the still night air.

#### White:

Missouri – 14" wide white flowers. Med-large

Sir Galahad – large, clear white flowers on a large plant.

#### Rose and Red:

Emily Grant Hutchings – Medium to large spread, tolerant of partial shade, bronze foliage, heavy blooms frequently produced in clusters.

H.C Haarstick – Large spread, bronze foliage, large flowers with a tinge of purple at the base of each petal.

Red Flare – Medium to large spread, maroon foliage, flowers dark red with maroon stamens.

#### Pink:

Mrs. George Hitchcock – An old, valued plant with light rose/pink flowers.

### Victoria Lily

The very large and exotic looking Victoria or Amazonian water lily was first introduced to horticulturists by seeds collected from South America in 1837. Its leaves grow to over 6 feet in diameter arising from an 8 inch thick rhizome. The leaf color is bright green with a rather puckered appearance and 2–6 inch high upturned edges. The large 12–14 inch white to rosy colored flowers open at night and open and close for 3 days. Their fragrance is similar to the smell of crushed pineapple. Because these plants require very large ponds of 15 feet in diameter, and large planter boxes, they are not suitable for most backyard ponds.



Victoria Lily

## Water Lotus

Water lotus are some of the more spectacular plants in aquatic garden collections. There are two types of lotus: the Egyptian types (*Nelumbo nucifera*) and the American types (*Nelumbo lutea*). *Nelumbo nucifera* is a native of the Orient. It was introduced into Egypt from India about the time of the Persian invasion, 525 B.C. Both are winter hardy in our area.

The Egyptian types have heavy large flowers, some up to 12 inches in diameter, and are red, deep pink, or white in color. The American lotus has smaller, yellow flowers. Additional features



Water Lotus



of the lotus are the large round leaves that stand erect, 3–5' high above water and their interesting "shower head" seed pods.

Water lotus like to grow in large containers, preferably 2–3 feet across and 12 inches deep. Half barrels are suitable. Plant them in heavy soil, and fertilize regularly as with water lilies. The lotus grows from a large thick root and like the water lily must not be planted too deeply in the container.

Water lotus do not tolerate deep water. They should be placed where there is only 2–6 inches of water over their growing point. If you wish to locate them in the middle of the pond, place their container on bricks or concrete blocks to raise them to the proper depth.

### **Partial List of Lotus:**

Mrs. Perry D. Slocum – Large plant with large blossoms that change from deep pink to yellow.

Alba Grandiflora – Medium to large-sized plant with large white flower, very fragrant.

Chawan Basu – Small to medium-sized plant, good for tubs, flowers are pink and cream.

Empress – Medium-sized plant with pure white single petaled flowers.

Maggie Belle Slocum – Large plant with large, deep rose pink single-petaled flowers, fragrant.

Momo Botan – Small to medium-sized plant, excellent for tubs, full double-petaled flowers with a deep rose color and a yellow center.

Tulip Lotus – Small-sized plant (18 inches tall), excellent for tubs, flowers pure white and tulip shaped.

Red Lotus – Large plant, deep rosy red large-petaled flowers.

Roseum Plenum – Medium-sized plant, large, double rosy pink flowers.

Speciosum – Large plant, single-petaled light pink flowers.

Charles Thomas – Small to medium-sized plant, good for tubs, deep pink flowers with lavender hues.

Shiroman – Large plant, large double-petaled creamy white flowers, fragrant.

Lutea – The American lotus, large plant with light yellow single-petaled flowers.

## Marginal Plants

These grow in very shallow water or on the ledge of the pond. The recommended water depth for these plants is between 0 – 6 inches of water above the growing point. Marginal plants provide some vertical interest to an otherwise flat garden. Many also offer a variety of stem and leaf shapes and textures to contrast with the lily pads.

Winter hardy marginal plants are planted similarly to other aquatic plants. Marginal plants include: cattails, arrowhead, water arum, thalia, horsetail, lizard's tail, and aquatic irises. Some tropical marginal plants are cyperus and water cannas.

### **Partial List of Marginal Plants**

#### Hardy:

|                                |                   |
|--------------------------------|-------------------|
| Cattail                        | <i>Typha</i>      |
| Water Arum                     | <i>Peltandra</i>  |
| Arrowhead                      | <i>Sagittaria</i> |
| Horsetail                      | <i>Equisetum</i>  |
| Irises: Blue Flag, Yellow Flag |                   |
| Lizard's Tail                  | <i>Saururus</i>   |
| Pickerel Weed                  | <i>Pontederia</i> |
| Hardy Water Cana               | <i>Thalia</i>     |
| Golden Club                    | <i>Orontium</i>   |
| Hardy Canna                    | <i>Thalia</i>     |

#### Tropical:

|             |                  |
|-------------|------------------|
| Taro        | <i>Colocasia</i> |
| Papyrus     | <i>Cyperus</i>   |
| Water Canna | <i>Canna sp.</i> |



*Pontederia* - Pickerel Weed



*Peltandra* - Water Arum

### Submerged Plants

Submerged plants are also referred to as oxygenating plants. They grow unrooted below the surface of the water. They are beneficial because they absorb dissolved nutrients from the water, reducing alga growth, and also release oxygen in the water, which benefits the fish. They also provide excellent hiding places for smaller fish trying to hide from large fish.

Submerged plants do not require planting in pots; they are simply placed in the aquatic garden in bunches and allowed to grow freely through the water. Some will grow at the surface (e.g. hornwort) and even have some parts above the water's surface (e.g. parrot's feather). Other types will grow as deep as 24 inches below the surface of the water (e.g. annacharis). These plants grow very quickly and eventually fill up much of the pond. When this happens they can be thinned out.

Oxygenating plants include anacharis, water milfoil, parrot's feather, and hornwort.



*Myriophyllum* - Parrot's Feather



### Floating Plants

Floating plants simply grow by floating on the surface of the water with their roots suspended in the water. Hardy floating plants include azolla and duckweed. Tropical floating plants include water lettuce and water hyacinth.



*Lemna* - Duck Weed



Azolla and Duckweed

**Author:** Raymond V. Bosmans, Regional Director, Maryland Cooperative Extension, University of Maryland

**Reviewed by:** Lynn Batdorf, Curator, U.S National Arboretum, Washington, D.C.

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