

USDA Hardiness Zone Map

Plants hardy in your zone can be left in the pond, keeping the roots below the freeze line of the pond water.

If a plant is not hardy in your zone, it must be treated as an annual and replaced yearly, unless wintered-over successfully indoors.

Benefits of adding Plants (to your pond)

In addition to adding height, color and texture to your pond / water garden....

Adding plants to your water garden has many benefits such as creating smooth transitions for edges and improving the water quality of your pond.

Aquatic Plants (these include Bog Plants such as aquatic mint, pickerel, etc.) aid in reducing nitrate levels.

These plants grow in moist/damp soil at the edge, or margin, of your pond.

Most "Marginals" will survive in moist soil to water depths of 12" depending on the species.

They add valuable filtration to the pond.

They absorb excess amounts of decayed organic matter from fish waste or food.

Plants such as cattails and iris take up large quantities of nutrients. They are hardy and will be back each spring to help keep your pond balanced.

Streams are also another place for marginal plants, they provide filtration as the water flows past their roots.

Plants shade your pond and give cover for your fish (especially water lilies).

Cover the water surface of the pond by planting waterlilies. Lily pads float on the top of the pond, shading the water.

These plants help in reducing algae growth by competing for the same nutrients.

Stabilize the water chemistry.

Plants are an essential component of breeding process of many fish (they provide an area for fish to spawn). Fish also gain shade and shelter from pond plants.

Plants also provide a safe place for frogs to lay their eggs.

Typically, coverage should be 60% of surface area.

Shallow Water (Bog) / Marginal Plants



Shallow Water (Bog) Plants (Hardy and Tropical) add height and texture to your water garden/pond. These plants grow in moist/damp soil at the edge, or margin, of your

pond.

Most "Marginals" will survive in moist soil to water depths of 12" depending on the species.

Most marginal plants should not be planted on the bottom of earthen ponds.

Marginals can be taller than 6 feet or less than 2 inches in height. These plants are very decorative adding color, texture, etc. to your water garden / pond landscape.

They attract birds and butterflies.

These plants prefer full sun (4-6 hours / day); but some tolerate partial shade/sun.

Plant in 1-3 gallon container in garden soil. Plants are hardy in zones indicated; treat as annuals in other areas.

A few of the hardy bog or marginal plants are: Arrowhead, Pickeral Rush, Aquatic Mint, Cattails, Obedient Plant, Irises.... Tropical bog or marginal plants: Spider Lily, Canna, Taro, Papyrus, Bog Lily to name a few.

Hardy Water Lilies (Nymphaea)



Hardy lilies - Perennials - They will bloom year after year even in the coldest areas of the hardy zones.

Hardy lilies go into winter dormancy and you can winter them over in your pond providing the root does not freeze.

Flowers float on the surface of the water. The flowers come in white, pink, red, yellow and changeables (their color changes each day of their bloom life).

Blossoms open in the mornings and close in the afternoon, blooms can last for 3 to 5 days before finally sinking below the water surface.

Full sun is preferred (at least 4 hours per day) (some cultivars will bloom even in part shade).

Planting Hardy Lilies

Plant lilies in an aquatic container at least 3 to 5 gallon in size. The larger the container you use, the longer it will be before repotting is necessary.

If the pots have holes in them, line the bottom with newspaper or burlap.

Fill the pot to about 2" from the top with garden soil (clay) *or* use aquatic planting media (**not commercial** potting soils they are too light and will float out of the pot).

(You will find the Aquatic Planting Media listed under Plant Care Products in our Online Store).

Place the tuber at a 45 degree angle with the non-growing end against the side of the pot.

Add fertilizer tablets in front of the crown (growing end of the tuber).

Lilies are heavy feeders and should be fertilized once a month after planting.

Be careful that the fertilizer is not touching the roots (this will burn them).

Press the soil around the roots being careful not to cover the crown of the plant. Next, add a layer of pea gravel over the soil. Pea gravel holds the soil in place and keeps fish from digging into the pots. Again, as with the soil, when adding the gravel, **do not cover the crown** (the growing tip of the tuber).

Gently submerge the pot into the pond. Newly potted water lilies should be kept in shallow water (up to 12" deep) until five or six new leaves appear.

Hardy lilies go to the bottom of the pond 18" to 30" deep.

Dividing Hardy Lilies

They can be divided any time during their growing season.

- 1.** Remove the pot from the water lily. Wash away the soil to expose the roots.
- 2.** Looking at the tuber you will see older growth on one end and new buds, leaves, roots on the other end. You can snap off and discard a large portion of the old section of the tuber. If side-eyes have formed along the tuber, these can be cut off and potted.
- 3.** Using a knife, cut back the tuber on the growing portion of the plant. Smaller waterlilies need only the newest 2 - 3 inches. Larger lilies need 4 -5 inches of tuber. Cut off all new buds and leaves. This will help the plant put it's effort in developing a new root system, not making leaves and flower.
- 4.** Fill the pot to about 2" from the top with garden soil (**not commercial potting soils they are too light and will float out of the pot**).

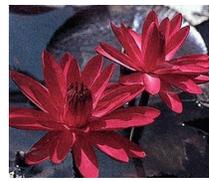
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- 5.** Gently submerge the pot into the pond. Newly potted water lilies should be kept in shallow water (up to 12" deep) until five or six new leaves appear.

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Tropical Lilies



Tropical lilies are larger than the hardy lilies, the 5" - 6" mildly fragrant blooms are held high above the water and lily pads. Each bloom can last up to 5 days.

Tropical water lilies need plenty of room to spread, warm water and full sunlight, at least eight hours every day.

In colder climates these tropical lilies **can not** overwinter in the outdoor pond.

In warmer climates, tropical waterlilies can stay in the pond throughout the winter. Even where the weather cools, the lilies will be fine outdoors so long as the water temperature **does not** fall below **60 degrees F.**

In colder areas where frost is an issue, tropical lilies will have to be brought indoors in order to survive the winter.

Tropical water lilies bloom in colors ranging from white to red, and some in shades of pink.

There are day-blooming tropicals with blue, lavender and even purple flowers.

Day-bloomers open in the morning and close in the late afternoon.

Night-bloomers open late afternoon / early evening, and close early/mid morning.

Planting Tropical Lilies

Tropical lilies need to be planted at the correct depth.

Examine the lily's stems, starting at the base. Look for the point where the stem changes color from light to dark. This is where the leaf emerged from the soil.

When you plant the lily, your soil on top must be even with this point. This will ensure that you have the plant's growing crown at the right depth.

They should be planted in 12-16" diameter containers.

When planting, all mature leaves can be removed, and root system trimmed.

Leaves that are left on will probably deteriorate, and be replaced with new foliage.

Fill the pot about two-thirds full of soil, form a mound in the middle of the pot and around the sides of the mound push several Aquatic Fertilizer Tablets into the soil. Tropical lilies should be fertilized at monthly intervals.

Place the lily in the middle of the pot and let the roots go down over the mound. Add soil to about 1" below the crown of the plant, and then pea gravel **at the color change on the stem.**

Lower to 6" water depth, and slowly continue to lower up to 18" deep as plant grows.

Tropical water lilies should be added when pond water temperature reaches 70 degrees.

Submerged Plants / Oxygenators



Parrot Feather



Cabomba



Anacharis

Submerged plants also known as "oxygenators" because they add oxygen to the pond water (only during the day).

Shown above are Parrot Feather, Cabomba and Anacharis.

They help keep water clear by absorbing impurities from the water.

Submerged plants also absorb nutrients that algae needs to survive.

These plants absorb carbon dioxide and give off oxygen.

Fish spawn and the baby fish hide in these plants.

Submerged plants are sold in bunches of cuttings (Exception: Jungle Val is usually sold as a individual bare root plant).

These plants can be anchored in containers with stone, sand, or soil and placed on the bottom of the pond.

Do not mix varieties in the same container when planting. You can use up to 3 bunches of like plants per 5" container.

Floating (Floaters) and Water "Lily-Like" Plants

Floating Plants:



Water Lettuce



Hyacinth

No planting needed - just float on water surface!

Since they float on the surface, they can grow in any depth of water. Most of these plants have an extensive root system that provides fish with hiding and spawning areas, are excellent filtrators and they provide shade and oxygen to the pond.

Most of these plants are tropical and should be treated as annuals except in extremely southern states.

The sale of some of the floating plants are restricted or prohibited in some states.

Water "Lily-Like" Plants:



Snowflake, Yellow



Four-Leaf Clover



Frog Bit

These plants are similar to water lilies in that they grow from a submerged crown with floating leaves and flowers. Their small foliage and blossoms make these plants great for small ponds, container water gardens or accent in any size pond.

How to Plant "Lily-Like" Plants:

"Lily-Like" plants such as the snowflake will survive whether it's floating or planted.

It can be planted in a 6" pot much like oxygenators (cabomba, anacharis, etc).

Fill the pot with soil, top with sand or pea gravel and water thoroughly. Then make a hole in the soil surface, and firm the soil over the roots. Submerge the pot about 6 inches below the water surface.

Lotus



Chawan Basu



Momo Botan



Mrs. Perry D. Slocum

Hardy perennials from the orient. The Sacred Lotus.

The two species of lotus are *Nelumbo lutea*, the native American lotus, and *N. nucifera*, the Asian lotus.

The Lotus will winter-over in most areas. They require 6 hours of sun per day (a few cultivars bloom even in part shade), and plenty of room to grow.

Their large umbrella-like leaves (repel water) are held above the water's surface on long stalks and even taller flower stalks with large fragrant blooms.

The lotus flowers, foliage and even the seed pods can be used in flower arrangements.

Planting lotus tubers:

Plant the lotus tuber in a very large container - 5 - 10 gallon (15" - 18" diameter) with 6" of mud/heavy topsoil.

Place the lotus tuber with the growing tips straight upwards. Gently press the tuber into the soil being very careful not to damage the growing tips. Add a thin layer of gravel to cover the tuber and to keep the tuber from floating. Be careful not to damage the growing tips and **Do Not** cover the tips with the gravel.

Water should be 3" - 4" above growing tip. You can lower to 12" - 18" water depth as foliage appears and plant grows.

Lotus are very heavy feeders but should not be fertilized until they have put up two or three leaves.

After they have set leaves they should be given 1 or 2 aquatic fertilizer tablets per gallon of soil.