

SPRIT OF GARDENING

Aquatic Plants

AQUATIC PLANTS

Aquatic plants are a necessary part of any water ecosystem. The plants are the living, breathing filters of your pond. They deter algae growth and keep a natural balance. Not to mention adding beauty to the space. It is suggested that to prevent algae growth, 70% of the water surface should be covered with plant material. There are four types of aquatic plants: **deep marginals, marginals, floaters and oxygenators.**



OXYGENATORS

These plants grow under water similar to plants you see growing naturally in ponds and lakes. They absorb excess nutrients from the water and liberate oxygen during the day, which helps to clear the water and helps to prevent the growth of algae that cause green water. Oxygenating plants are indispensable when fish are present, as they set up a balanced or natural condition of the water. They also will assist materially in raising a hatch of baby fish, as the young fish find much needed shelter and protection among the foliage. While not all submerged oxygenators are hardy, those that are don't need much help in the spring, to bounce back into action.

3 OXYGENATORS PER SQUARE METER.

Overwintering:

All varieties will over-winter under ice providing the pond is deep enough to prevent the bottom from freezing (1.2 m). Make sure the plants are on the bottom of the pond. An alternate method is to keep them in an aquarium.

- Anacharia - Elodea canadensis ZONE 2
- Hornwort - Ceratophyllum ZONE 2
- Chilensis - Sagittaria chilensis ZONE 6

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DEEP WATER MARGINALS

Deep water marginals are similar to water lilies in that they have a root ball rooted in the bottom of the pond and leaves floating on the surface. These plants prefer to have at least 4-6" of water over the soil. When introducing a deep marginal into a pond make sure the leaves always remain on the surface of the water. As the plant grows they can be dropped deeper. However, if there are buds, lowering the plant will cause them to fall off.

1 DEEP MARGINAL PER SQUARE METER

Overwintering:

These plants will over-winter in cold storage or under ice providing the pond is 1.2 meters deep. For cold storage, remove pot from pond and allow draining for a few hours. Soil should be damp but not muddy or completely dry. Trim back foliage to 1-2" above the crown. Place plant and all in a plastic tub with a tight fitting lid. Or wrap pot in burlap and place it in a plastic bag and loosely tie. Keep it in cold storage at a temperature between 1 to 5 °C. Check monthly to ensure the root system is sufficiently moist

- Water Clover - *Marsilea quadrifolia* ZONE 6
- Water Hawthorne - *Aponogeton distachyos* ZONE 4
- Water Poppy - *Hydrocleys nymphoides* ZONE 6

FLOATERS

Floaters are ideal solutions as the easy to grow aquatic plant. They do not need a pot or soil as they float on the surface of the water and are relatively inexpensive. Do not worry about fertilizing them because they will filter enough nutrients directly from the water. These plants help control algae by shading the water and utilizing dissolved nutrients that would otherwise encourage algae growth.

1 FLOATER PER SQUARE METER.

Overwintering:

Frogbit will sink to the bottom of the pond to over-winter. Others can be wintered indoors in an aquarium or a pool with 5-6 hours of light per day. Otherwise discard floaters after they've been hit with frost. Re-introduce back into pond after frosts have passed and pond temperature has reached 60° F.

- Duck Weed - *Lemna minor* ZONE 2
- Fairy Moss - *Azolla caroliniana* ZONE 5
- Frogbit - *Limnobium spongia* ZONE 6
- Water Hyacinth - *Eichomia crassioes* ZONE 7
- Water Lettuce - *Pistia stratiotes* ZONE 7

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WATER MARGINALS

This is the largest group of pond plants used around the outside of the pond on a marginal shelf. They require 2 to 6" of water over the soil. Some varieties will survive in marsh-like soil around the edge of the pond. Use this group to act as a wind-breaker and to add texture to your water garden.

Overwintering:

Hardy marginals can be left on the marginal shelf in the pond year round. Or sink the pot into your garden and back-fill with soil. Dig out and re-introduce into the pond once frosts have passed. Tropicals should be wintered indoors same as Deep Marginal Plants.



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| • Arrow Grass-Triglochin sp. | ZONE 2 | • Parrot's Feather-Myriophyllum aquaticum | ZONE 6 |
| • Arrowhead-Sagittaria lancifolia | ZONE 2 | • Pennywort-Hydrocotyl ranunculoides | ZONE 5 |
| • Cattail-Typha latifolia, T.laxmanii | ZONE 2 | • Pickerel Weed-Pontederia cordata | ZONE 3 |
| • Colt's Foot-Petasites sagittatus | ZONE 2 | • Spike Rush-Eleocharis palustris | ZONE 8 |
| • Creeping Spike Rush-Eleocharis palustris | ZONE 2 | • Sweet Flag Iris-Acorus calamus, A. calamus | |
| • Flowering Rush-Botomus umbrellatus | ZONE 5 | "variegata" | ZONE 3 |
| • Golden Button-Cotula coronopifolia | ZONE 6 | • Umbrella Plant-Cyperus alternifolius | ZONE 6 |
| • Horsetail Rush-Equisetum hyemale | ZONE 2 | • Yellow Flag Iris-Iris pseudocorus, Iris pseudocorus | |
| • Juncus-Juncus ensofolius | ZONE 5 | "Variegata" | ZONE 2 |
| • Lizard's Tail-Saurus cernus | ZONE 4 | • Water Plantian-Alisma plantago aquatica | ZONE 3 |
| • Marsh Marigold-Caltha palustris | ZONE 2 | • Water Sedge-Carex aquatilis | ZONE 2 |
| • Needle Spike Rush-Eleocharis acicularis | ZONE 2 | • Zebra Rush-Scripus zebrinus | ZONE 2 |

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WATER LILLIES

Hardy water lilies are ideal for any water garden because of their perennial beauty, ease of culture, wealth of bloom, and range of colour and form. They grow readily when provided with sunlight, rich soil, warm water, and are exceptionally hardy. Their purchase may be considered a permanent investment, with reasonable care they can be retained for many years. Hardy water lilies should be fertilized each spring and on every holiday weekend throughout the summer to encourage blooming and strong growth. Dividing and re-potting them every 2-3 years will prevent the plants from becoming root bound which can stunt growth and reduce blooming.

Over-wintering:

The first frost indicates it is time to prepare for winter. Once foliage on plants has blackened from frosts in the fall, they should be lifted, left in baskets and left on their sides to drain for a few hours. Drain in a frost-free area. Once drained, allow soil to dry until damp, but not completely dry or muddy. This forces nutrients from the leaves back into the tuber. Cut back or break off dried leaves to the crown. A fungicide may be applied to the water lily now to prevent disease.



After these initial steps have been taken there are three methods to choose from:

- This is the most successful method of overwintering water lilies. Store pot in cold storage at temperatures between 1 to 5 °C. Use a plastic tub with a tight fitting lid. Or wrap the pot and all in burlap, then place it in a plastic bag and loosely tie (for air exchange). The refrigerator is ideal. Check monthly to ensure the root system is sufficiently moist.
- Remove the waterlily tuber from its basket and rinse it off. Cut off the leaves to the crown of the root, and place it in a plastic bag containing moist peat or perlite. Store in a cool (1 to 5 °C) dark place. The drawback to overwintering with this method is that the plants will take longer to establish themselves the following spring. This may impact the blooms or reduce blooming period.
- Lilies can be left in the pond provided that the pond does not freeze solid. In Alberta, that means the pond must be at least 1.2 meters deep. To ensure the survival of the lily, they must be below ice. Place them in the deepest area of the pond where the risk of freezing is reduced.

Plants stored in this dormant state will begin initiating signs of growth as early as February. Just keep them moist until your growing ponds are thawed (i.e. 60°F). Once your pond has thawed, you can re-introduce them outdoors. Growth will be slow until the pond warms up. Fertilizing should be done at this time. Basically there are two things that will kill your water lily, freezing and drying out.

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WATER LILY VARIATIONS

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| <ul style="list-style-type: none"> • Nymphaea 'Colorado' (peach) • Spread: 5 to 8 feet • Planting depth: 12 inch / 30cm minimum • Nymphaea 'Fire Opal' (fuchsia pink) • Spread: 3 to 4 feet / 90-120cm • Planting depth: 12 inch / 30cm minimum • Nymphaea 'Attraction' (red) • Spread: 5 to 8 feet / 150-240cm • Planting depth: 12 inch / 30cm minimum | <ul style="list-style-type: none"> • Nymphaea 'Burgundy Princess' (red) • Spread: 2 to 4 feet / 60-120cm • Planting depth: 12 inch / 30cm minimum • Nymphaea marliacea 'Joey Tomocik' (yellow) • Spread: 3 to 4 feet / 90-120cm • Planting depth: 12 inch / 30cm minimum • Nymphaea marliacea 'Albida' (white) • Spread: 4 to 5 feet / 120-150cm • Planting Depth: 12 inches / 30cm minimum |
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RECOMMENDATIONS

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| <ul style="list-style-type: none"> • Water lilies can survive in the pot they were purchased in for up to two years. However, it is recommended they be transplanted in a specially designed water plant container as soon as possible. • Use a good aquatic soil. • Do not cover the crown of the lily with soil, as this will promote rotting. • Each water lily has a specific depth it prefers to be at. Do not immediately submerge the plant to that depth. Always keep the leaves floating on the surface of the water. Place bricks beneath the pot to maintain the appropriate height, removing bricks as the stems grow and the plant adjusts to the pond. • Make sure there is at least 15 cm of water over the crown of the plant. Hardy varieties prefer 20-30 cm of water over the crown where as Tropical varieties prefer 15-20 cm. | <ul style="list-style-type: none"> • Transplant lilies to a new larger container every two year • For water lilies to produce blooms they need a minimum of 4-5 hours of sunlight each day, preferring 5-8 hours. • Water lilies prefer calm waters. Spray from waterfalls and spitters will puncture holes in the leaves. • Use a heater to establish and maintain the ideal pond temperature of 60-70 °F. Lilies will not leaf out until the water is 60°F and will bloom best at 70 °F, with full sun. • Water lilies are heavy feeders. Fertilizing once a month will maintain vigorous growth. Try using a slow release fertilizer preferably in tablet form. • Divisions should be done in the spring by dividing the rhizome with sharp shears. It's best to divide tubers every 4 to 5 years to rejuvenate the plant. |
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