



RGA Gardening Fact Sheet #7 *Water Gardening*

Gardening enhances our personal and community space. All plants, from trees to flowers, beautify our living area, provide edible food and offer environmental benefits ranging from the oxygen we breathe to creating summer shade to cool our homes. By growing plants, we better appreciate our natural environment and the ecological relationships between soil, water and climate. Gardening helps the young to the young-at-heart understand the responsible use and protection of our natural environment, as well as the impact we have on the “big picture” of environmental stewardship.

With support from the Conexus Credit Union’s (CCU) Community Investment Program, the Regina Garden Associates (RGA) at the Regina Floral Conservatory aim to promote environmental stewardship through a series of gardening fact sheets, teaching appreciation of growing plants and basic gardening practices to the general public. Visit the Regina Floral Conservatory often and continue learning about gardening through our fact sheets.



Water gardening brings sound and a visual focal point into a garden. Constant through the season, it can provide a relaxing environment, as well as create a wildlife habitat. Aquatic plants offer attractive colour and texture that forms part of the overall landscape.

Location & Design Considerations

The best location for growing aquatic plants is a site with partial sunlight of at least four hours of direct sunlight per day, preferably in the morning. Avoid placement below deciduous trees where leaf debris will blow into the water feature. As a focal point, a water feature should be near a viewing or seating location. The size of water feature should be in scale with a property lot whether for a patio or large backyard. Match the style of the pond to the surrounding landscape style. For example, a rectangular or circular pond with a fountain is a formal style, whereas irregular shaped ponds, streams and waterfalls are more informal or natural styles. Check on municipal bylaws regarding design and security required around water features. Locate buried utility services in advance and avoid excavation in these sites, while still ensuring there is access to electricity for powering pumps if required. Most importantly, consider safety for children in the water feature’s design.

Types of Water Features

Pondless water features use a pump and below surface covered reservoir. They can include bubblers, streams and waterfalls. Shallow water or spray simply flows into a bed of rocks that cover the reservoir. Plant materials are limited to border plantings around the feature’s perimeter. This type of water feature is attractive to gardeners concerned with security for children. Additionally, pumps need only operate on a demand basis, which allows for lower maintenance.

Container water gardening is preferred for small spaces like patios, decks and balconies. From pots to barrels, above ground containers filled with standing or flowing water, and with/without a pump/filter, are used to grow marginal, submerged and floating aquatic plants.

Bog gardens are designed for low ground depressions with continually wet to moist soils and an absence of surface water. A flexible liner may be used in combination with perforated pipe to create and enable watering of the bog. A loam topsoil mixed with peat moss and compost are added to create the growing medium. Marginal aquatic plants grow well and transition into drier high elevations with border perennial plants.



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Pond Lily



Pennywort



Ponds are constructed below ground with smaller rigid preformed liners and plant shelving around the edge. Flexible rubber and plastic liners are used to construct larger and deeper ponds. Streams and waterfalls can be incorporated into either type of pond. Pumps and biological filters, operating full time, are used to clean and recycle water. Aquatic plants would typically include submerged, floating, deep water and marginal types. Insects, amphibians and birds are attracted to pond and bog habitats. Rocks are used to conceal the edge of the liner and then border plants are installed to create a transition into the surrounding yard.

Prior to freeze-up in the fall, drain and remove pumps or filters from pondless water features, containers and ponds with rigid plastic liners.

Plant Materials

Plants are an important part of maintaining a balanced and healthy aquatic ecosystem. Water quality is sustained by plants. Through photosynthesis, plants naturally produce oxygen and recycle nutrients from decomposing algae, plant material and fish waste. Surface growing plants provide shade and reduce potentially high water temperatures and subsequent algae overgrowth. Most plants are purchased and grown in lattice plastic containers that permit water flow through. In spring, avoid placing tropical plants in a container water feature or pond until water temperatures have warmed to 65°F (18 °C) and above. Select and place container plants based on their preferred water depth. Use the shelving to place plant containers in ponds with a rigid preformed plastic liner. Water gardening is seasonal with only larger, deeper ponds allowing for natural overwintering of aquatic plants such that their roots do not freeze. Gardeners may choose to over-winter speciality plants like water lilies indoors.

Suggested hardy and tropical plants typically available at Saskatchewan Garden Centres are broken down into the following groups:

- **Submerged Plant or Oxygenators:** Plants are growing primarily below the water surface. Suggested plants are Hornwort (*Ceratophyllum*), Parrot's Feather (*Myriophyllum*), Elodea (*Elodea*), and Water Celery (*Vallisneria*). Submerged plants produce oxygen, absorb nutrients and provide fish habitat for both food and spawning.
- **Floating Plants:** Plants independently float on the water surface. Suggested plants are Water Hyacinths (*Eichhornia*), Water lettuce (*Pistia*), Azolla (*Azolla*), and Duckweed (*Lemna*). Floating plants shade and cool the water while absorbing nutrients.
- **Deep Water Plants:** Rooted in the bottom and growing at depths typically over two feet in depth, deep water plants typically have floating leaves on the surface. Suggested plants are tropical and hardy Water Lilies (*Nymphaea*), Yellow Pond Lily (*Nuphar*), and Smartweed (*Polygonum*). The colorful flowers of the water lily make it one of the most valued aquatic plants.
- **Marginal Plants:** This broad group encompasses a transition from shallow water plants typically growing in less than six inches of water to bog plants growing on wet soils. Suggested shallow water plants are Broadleaf Arrowhead (*Sagittaria*), Cattail (*Typha*), Rush (*Juncus*), Little Giant Papyrus (*Cyperus*), Water Pennywort (*Hydrocotyle*), and Canna (*Canna*). For bog plants, suggested hardy Zone 3 perennial plants are Marsh Marigold (*Caltha*), Sedge (*Carex*), Spike Rush (*Eleocharis*), Sweet Flag (*Acorus*), Iris (*Iris*), and Water Parsnip (*Sium*).
- **Border Perennial Plants:** Placement of rocks and border plants on moist to drier soils around the edge of a water feature contribute to a natural look which also conceals the pond liner and other equipment. Suggested Zone 3 hardy perennials include partial to full shade plants like Hosta (*Hosta*), Bugloss (*Brunnera*), Ostrich Fern (*Matteuccia*), Meadowsweet (*Filipendula*), and Astilbe (*Astilbe*). For partial to full sun, suggested hardy Zone 3 plants are Daylily (*Hemerocallis*), Sedum (*Sedum*), Lady's Mantle (*Alchemilla*), and Karl Foerster Feather Reed Grass (*Calamagrostis*).

Other Resources

Prairie Water Gardening Society, Saskatoon, Saskatchewan, prairiewatergarden.ca

Grandora Aquatics, Supplier of local Saskatchewan grown hardy and tropical aquatics. See website for catalogue on plant materials and care at grandora-aquatics.com

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