Propagating Aquatic Plants©

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HARDY LILIES

Hardy lilies (*Nymphaea*) are a tuber-producing plant that has small new plants along the main tuber called "eyes". With a sharp knife or pruners collect the section of the plant that is the strongest and shows the most promise (Fig. 1 and 2). There may be more than one section like this. The remaining old growth (sometimes black) should be discarded since it will not produce a very vigorous new plant. Each plant should receive its own container.

Depending on the species the mature tuber sizes will vary from 2 to 6 inches in length. The eyes will generally be from 1 to 3 inches in length. Small eyes should be planted in 1-qt or 1-gal containers and kept in shallow water (4 to 6 inches) until more mature. The parent tubers can be planted directly into a 16-inch-diameter × 7-inch-deep container and placed 12 to 18 inches below the waters surface. Once established, larger taxa can be moved to a depth of 2 to 3 ft.

- Never cover the crown with soil.
- Place the cut end of the tuber closest to the pot edge.
- Place in relatively still water. Strong water currents are often detrimental to their development.
- Feed every 3 to 4 weeks (or per manufacturers instructions) to maintain plant vigor and health as well as deter disease and insects (Fig. 3).

HARDY LOTUS

Lotus (*Nelumbo*) produces tubers that look like bananas connected end-to-end (Fig 4.). They range in size from 4 inches to 3 ft or more depending on the cultivar and are formed in the late fall. Lotus is a very low maintenance plant. Provided it has an adequate-sized container, harvesting of the tubers should be as infrequent as every 3 to 5 years. Unlike most plants that are cut into smaller more manageable plants, lotus tubers are "collected", something like potatoes—plant one, collect many. The growth that is produced throughout the summer months dies off, creating a maze of dead stringy runners. Gently sift through the soil, feeling your way to the growing tips of the tubers to protect them. It is critical during this procedure not to break off the growing tips. Each collected tuber should receive its own container. It is critical that fertilizer not be added until the first upright or standing leaves emerge. Manufacturer's recommended rates should be followed.

Since lotus can easily run from 20 to 40 ft each season it is strongly recommended they be contained in a planting container without holes. Only a small amount of soil is required. For example, a 36-inch diameter × 12-inch deep container would need just 4 inches of soil. The seemingly small amount of soil compensates for two things. First, it prevents the soil from compacting as the runners occupy space in the heavy soil. Secondly, the natural tendency of the runners is to spiral down looking for a way out; this allows more growing space in the container. As the new runners are produced the old decaying foliage is forced upward and can be easily removed pe-

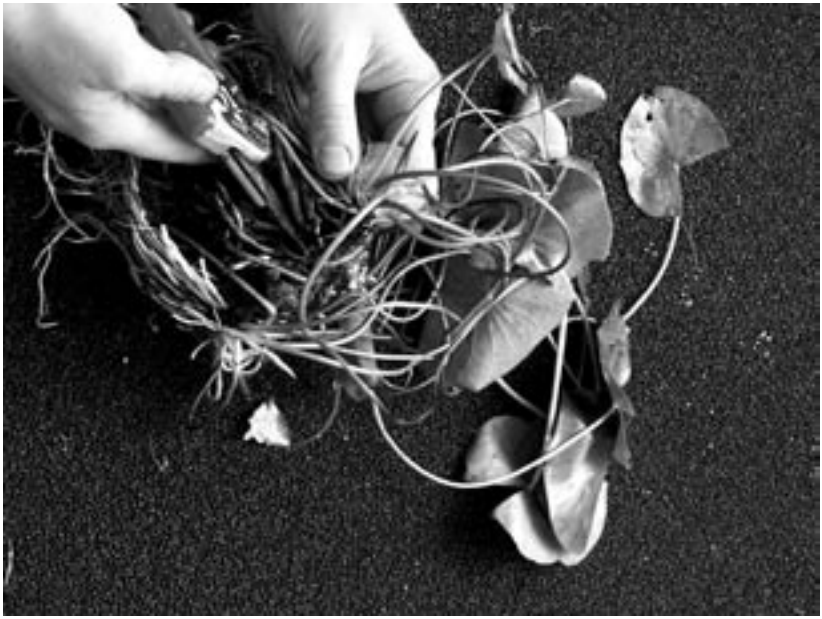

Figure 1. Hardy waterlily (*Nymphaea*) before division.

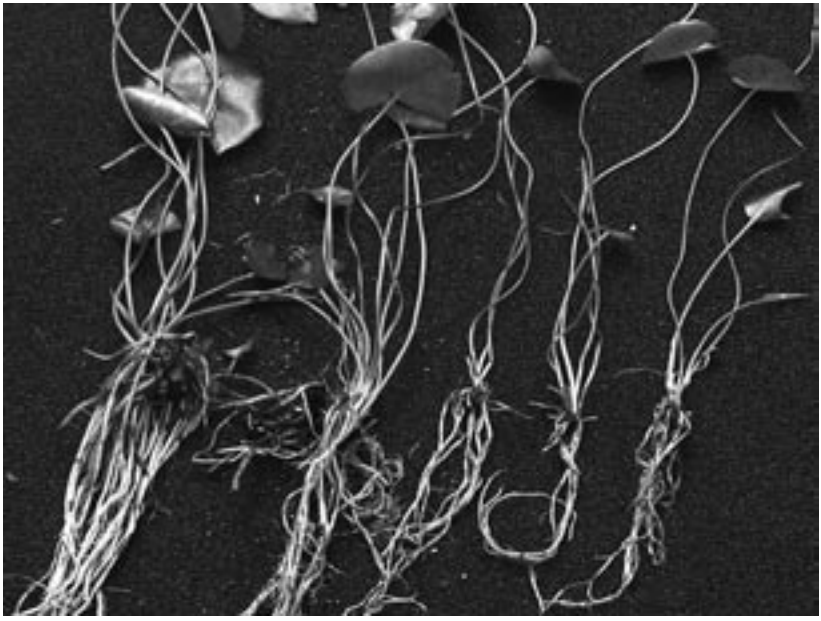

Figure 2. Hardy waterlily (*Nymphaea*) after division.

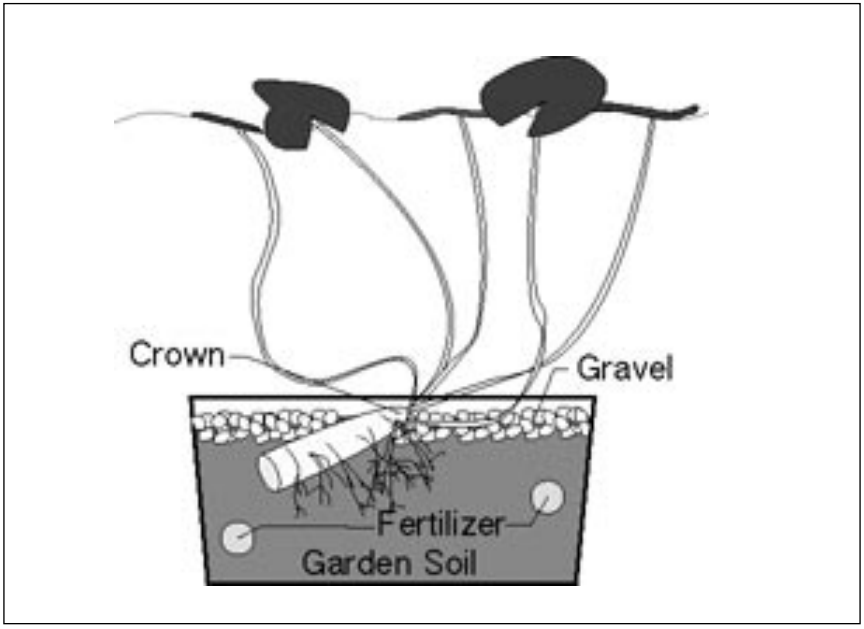

Figure 3. Hardy waterlily (*Nymphaea*) fertilizer placement.

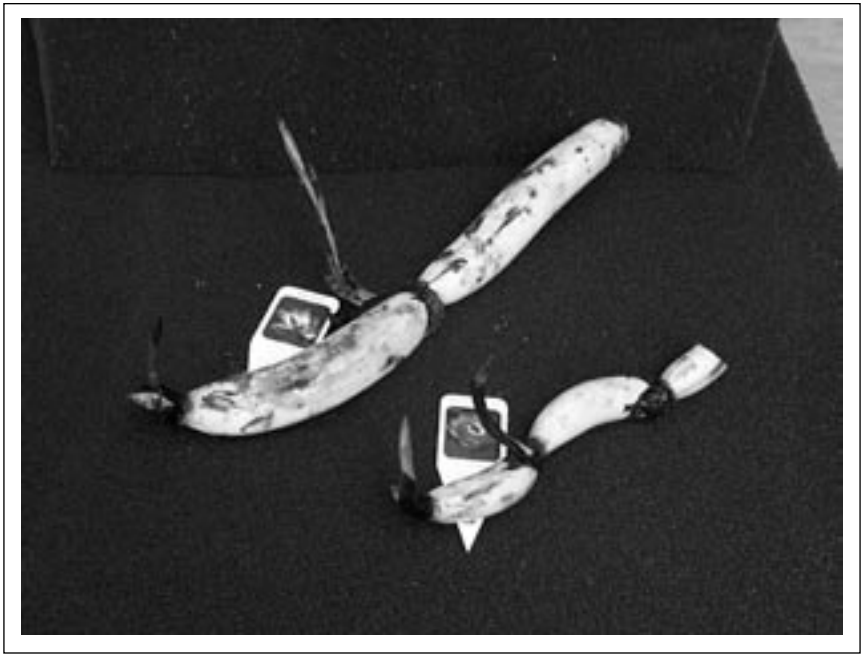

Figure 4. Lotus (*Nelumbo*) produces tubers that look like bananas.

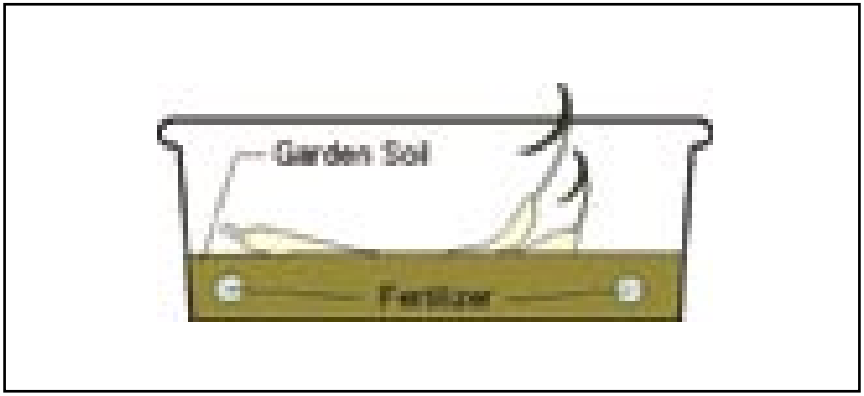

Figure 5. Lotus (*Nelumbo*) fertilizer placement.

riodically to deter the need for a major transplanting. Tubers should be placed on top of soil and held in place by gently pressing them in, taking care not to bury the growing tips. Do not add fertilizer until three to five leaves are standing above the water's surface (Fig 5.). Water level should be kept between 6 and 8 inches until aerial leaves establish.

PERFORMANCE OF LILIES AND LOTUS

The performance of both lilies and lotus depends largely on the amount of space and fertilizer they receive. Small containers are satisfactory from a retail perspective because they are more manageable but they are not adequate for long term. The root system is very restricted in a small pot and penetrating it to add fertilizer is extremely difficult. Also, due to insufficient amounts of soil, the plants will require increased amounts of fertilizer. Another down side to small containers is increased plant maintenance. Small containers will become root bound quickly. That means dividing and repotting all of your plants every year or 2 instead of every 3 to 5 years. If harvested annually expect one tuber to produce from three to five new tubers the following year. The number of tubers produced varies from cultivar to cultivar.

Recommended Container Sizes — Diameter × Depth

Retail / Growing Purposes:
- 8 inches × 5 inches — dwarf and medium hardy lilies
- 9 inches × 6 inches or 10 inches × 7 inches — medium and large hardy lilies
- 16 inches × 7 inches or 16 inches × 11 inches — dwarf lotus and medium lotus
- 18 inches × 12 inches or 23 inches × 10 inches — medium and large lotus

Long Term:
- 16 inches × 7 inches — dwarf and medium hardy lilies
- 23 inches × 10 inches — medium and large hardy lily varieties or dwarf lotus
- 36 inches × 12 inches — medium and large lotus
- 58 inches × 18 inches — large lotus

Fertilizer. We have experimented with a number of aquatic and non-aquatic fertilizers. Our best results have been with Pondtabbs aquatic plant fertilizer (10N-14P-10K). The 5-g tablets feed for 3 to 4 weeks. Other slow-release fertilizers have sometimes proven fatal–releasing not enough in the early spring and too much in the late summer.

Soil. As Patrick Nutt, Assistant Director of Horticulture (Maryland Aquatic Nurseries, Inc.), once remarked, "If it'll grow grass it will grow water lilies". A clay, sand, and silt (20 : 40 : 40, by volume) mixture works well. We use a good grade top soil with a similar analysis. No bagged mixes; they may contain too much organic matter and ferment.

Herbaceous Perennial Plants for Dry Shade©

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INTRODUCTION

Gardening in the Southern U.S.A. has many challenges. Particularly with the dry weather we have been experiencing this past summer. Because of our intense sun and heat, shade is almost a necessity, so we plant trees that create dry shade. The list of herbaceous perennial plants for dry shade is much shorter than a list for moist shady areas.

The following herbaceous perennial plants not only bloom once established in dry shade, but these plants hold their foliage reliably well throughout the summer.

HERBACEOUS PERENNIAL PLANTS FOR DRY SHADE

***Geranium macrorrhizum* (big root cranesbill).** Extremely fragrant leaves form a dense and vigorous ground cover. Flowers appear in early summer; good fall foliage color; height: 35 cm (12 inch); spread: 0.6 m (24 inch); hardiness Zones: 2-9; selections: 'Bevan's Variety' with deep magenta-pink flowers. [Source: Blooms of Bressingham] and 'Ingwersen's Variety' pale with candy pink flowers and light green foliage.

***Heuchera micrantha* (coral bells).** Many new varieties are appearing each year. The older varieties were grown for their early summer display of flowers, but many of the newer types have been selected more for their outstanding foliage which has shades of purple, brown, red, and amber, often with metallic silver markings. Height: 0.3 to 0.6 m (12 to 24 inch); spread: 0.3 to 0.5 m (12 to 18 inch); Hardiness Zones 7 to 9; selections: *H. micrantha* var. *diversifolia* 'Palace Purple' is native to the U.S.A. West Coast with large foliage crinkled with maple-leaf shape in shades of deep purple-red; stems of small whitish pink flowers appear in early summer. 'Palace Purple' was the 1991 Perennial Plant of the Year; has violet purple leaves with silver veins [Source: Green Leaf]; 'Amber Waves' golden leaves [Source: Walters Gardens]; 'Raspberry Ice' dark veins over a background of raspberry and frosty silver [Source: Blooms of Bressingham].

***Pulmonaria longifolia* (lungwort).** Lungworts are among the first perennials to bloom in spring, sometimes starting in early March in the Southern U.S.A. Flower buds are usually pink turning to blue, red, or white when mature. Plants may go dormant in summer if conditions are too dry. Height: 25 cm (10 inch); spread: 0.3 to 0.5 m (12 to 18 inch); hardiness Zones: 3 to 9; selections: 'Ocupol' Opal™ alumroot, pink blooms turn to white [Source: Green Leaf], and 'Majeste', silver foliage with green edge [Source: Green Leaf].