

HORTICULTURE FACT SHEET 25 MERVIN C. EISEL*

Garden Lilies in Minnesota

Lilies can provide a colorful display in gardens from mid-June through mid-August, a time when few other perennials are blooming. In a few years, lily bulbs increase and make an attractive clump. And these flowers require only minimal care.

Lilies make excellent cut flowers because of their heavy substance. If cut when the first buds are open, the remaining buds will open too. Lilies complement any decor because they come in many colors and shades. Lily flowers hold up well in corsages, even without water. The anthers should be removed to avoid staining garments with pollen.

TRUE LILIES

Many plants have lily as part of their name, but are not true lilies. True lilies belong to the genus *Lilium* and have a bulb made up of fleshy, overlapping scales without a protective covering. The lily has a stiff stem or stalk with narrow strap-like leaves coming from it. The lily flower is made up of three petals and three petal-like sepals (see diagram).

PROPAGATION

One of the easiest methods for increasing lilies is to dig up and divide established clumps. You can divide them from mid-September through October. Don't use force in separating the bulbs; those that are ready to be divided will separate fairly easily. You may find small bulbs (bulblets) above the main bulb and along the stems. Because of their small size, these bulbs may not bloom for a couple years. Place a loose mulch over them for the first winter. Some lilies such as the tiger lily produce small bulb-like structures called bulbils along the aboveground portion of the stem. You can use them to increase your lilies. Gather the bulbils and plant them in the garden in rows 2 inches deep. Protect them with a winter mulch.

You also can increase lilies with the scales from large bulbs. Remove only a few scales from each bulb. Place them in a plastic bag of slightly moist peat moss or vermiculite and put the bags where the temperature remains about 70° F. Before the scales sprout or about mid-April, put the bags in the refrigerator. Plant the scales in rows 2 inches deep in the garden about mid-May. They probably will not bloom until the second summer. After they have once bloomed, dig up the bulbs and plant them in clumps in a permanent location.

SITE AND SOIL

Lilies grow best in a sandy loam soil. Add organic matter to heavy clay or sandy soils before planting. Good drainage is essential. Lilies should never be planted where there is standing water. Planting on a slight slope is recommended. A north-facing slope is best because the lilies will then emerge late in the spring, minimizing the chance of spring frost injury to the tender shoots.

Most lilies do best in full sunlight, but most will tolerate partial shade. A few grow best in shady areas provided the shade is not too heavy. Spade or till the soil deeply before planting. Eliminating quack-grass from the beds before planting is desirable.

PLANTING

Select firm, plump bulbs with their roots attached. Avoid damaged or diseased bulbs. Ordering bulbs from a local source is sometimes better than ordering from a distant source because the bulbs may arrive too late in the fall for planting.

Lily bulbs are never completely dormant, so you must protect them from drying before planting. Plant bulbs as soon after arrival as possible.

The usual time to plant lilies is from mid-September through October. However, madonna lilies should be planted as early as bulbs are available because this plant must produce a rosette of leaves before winter.

With care, lilies can be moved without injury when they are in full bloom. Water them immediately after moving.

Plant lilies in clumps of three to five bulbs of a single kind. Space bulbs in the clump 8-12 inches apart. The clumps should be 3-5 feet apart, depending on the vigor and size of the lilies. You can plant annual flowers in the space between clumps.

Plant small lily bulbs 2-4 inches deep and large bulbs 4-6 inches deep. One exception is the madonna lily: the points of these bulbs should be only an inch below the surface.

Before winter, mulch the soil with 4-6 inches of loose, weed-free material such as marsh hay. The mulch will delay soil freezing in the fall,

the newly planted bulbs a longer time to become established. The mulch also insures safer wintering by insulating the soil against low winter temperatures. In the spring, it delays the emergence of frost-tender shoots.

SPRING AND SUMMER CARE

Leave the mulch in place until the danger of hard frosts has passed. If the lily shoots start coming through, you can remove the mulch, but leave it nearby so you can cover the lilies if a hard frost is predicted. Hard frost can damage the shoots and kill the flower buds.

Rabbits can be a menace when the lilies emerge in the spring. One solution is to catch the rabbits in live traps. Sprays of the following commercial repellents have been effective, but should not be used for food crops: Improved Z.I.P., No Nib'l, Arasan 75, and Arasan 42-5. A nicotine sulfate spray made by adding 1/2 teaspoon of 40 percent nicotine sulfate to 1 quart of water also is effective.

During the summer, some lily growers like to keep the soil around their lilies covered with an organic mulch to keep the soil cool and make the lilies grow better. You can use grass clippings, pine needles, or composted leaves. Some gardeners use a ground cover such as low growing annual flowers to keep the soil cool as well as add color to the garden.

Slugs can be a problem, especially where mulches are used. Control them with metaldehyde sprays or baits. Researchers have found saucers of stale beer effective in controlling slugs. Place saucers in the soil so the rims are at soil level.

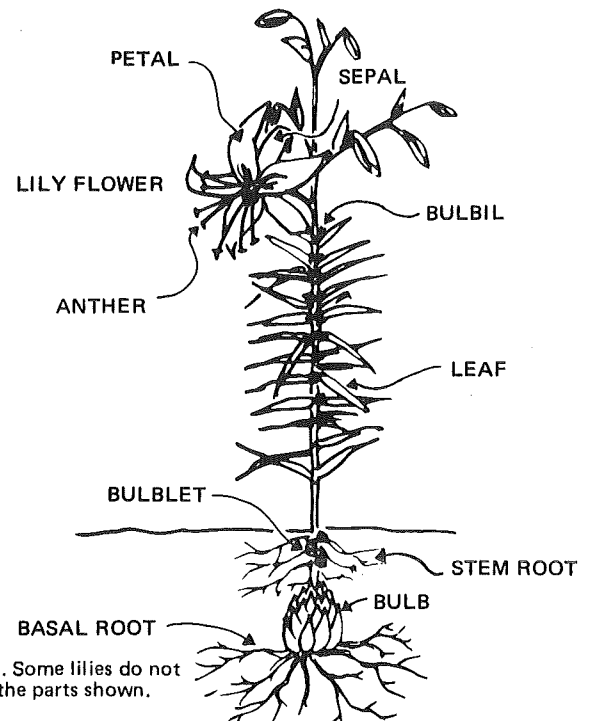
You can eliminate aphids and leaf hoppers with sprays containing malathion.

A fungus disease called botrytis blight produces circular or oval spots that are varied in size and usually reddish brown. Under damp conditions the spots enlarge, and heavily infected leaves may be completely destroyed. You can control this disease by spraying the under and upper sides of the leaves with any of the following fungicides: Bordeaux mixture, Maneb, Botran, or Benomyl plus a spreader-sticker every 10-14 days. Be certain to follow the directions on all pesticide containers.

Remove old flowers by breaking them off by hand. Do not remove any of the foliage. In early spring, pull and remove the dead stalks.

WINTER PROTECTION

Where snow cover is dependable, no winter protection is needed except for lilies of borderline hardiness. In other areas, a winter mulch is desirable, although not always necessary. Any loose, weed-free material can be used. Apply it after the ground begins to freeze to minimize the chance that mice will destroy any bulbs.



A lily plant. Some lilies do not have all of the parts shown.

* This fact sheet was prepared in cooperation with the North Star Lily Society.

SELECTING LILIES FOR YOUR GARDEN

Most lily flowers fit into one of three typical forms, but not all of them do. One common lily form is the turk's cap type. These lilies have pendant flowers with tightly reflexed petals and sepals. Another type is the candlestick, bowl-shaped lilies with flowers that face up or sideways. The third form is the trumpet type. The petals and sepals of this type unite at the base to form a broad, flaring tube and usually face outward or downward. Some trumpet hybrids have open flowers known as flares.

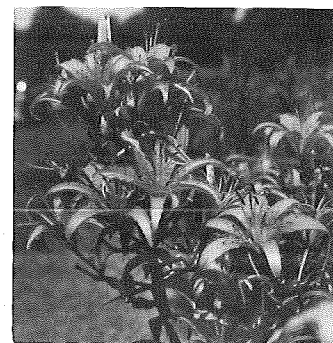
Lilies in their wild state are species. When grown from seed, the plants closely resemble their parents. Some species lilies are grown in gardens today. Other species perish unless garden conditions are exactly right. Hybridizers have crossed many species trying to combine the desirable traits of the parents into the new seedlings. Most of these seedlings are destroyed, but if there are any outstanding new lilies they may be given a name such as 'Enchantment'. They are then properly known as cultivars. The bulb is then vegetatively increased, usually from scales, and the new bulbs are exactly like the original.

Some parents produce seedlings with only slight variations, but all seedlings are of good quality. A whole lot may be given a name, but it is actually a strain or grex. When a strain is planted, all the lilies in the clump may be slightly different.

Not all lilies are hardy in Minnesota. Be sure to select adapted species and cultivars. Consider the color scheme of your garden and select lilies that will give you a long season of bloom. It is a good idea to visit a private or public garden to become familiar with and select those lilies you'd like to grow in your garden. The largest collection in Minnesota is at the University of Minnesota Landscape Arboretum near Chaska. The accompanying list of adapted lilies is based on performance at the Arboretum and in private gardens.

ADAPTED LILIES

Lily	Bloom period	Color	Remarks
Allegra	Mid-August	Pure white	Recurved, beautiful
Aurelian hybrids	Early August	White or colored	Flares to trumpets
Baby Robin	Early July	Spotted, tannish-pink	Produces bulbils
Black Beauty	August	White, green, and crimson	Outfacing
Bright Star	Mid-August	White-apricot throat	Flare-type, pendant flower
Bronze Queen	Mid-July	Bronze	Turk's cap
Byam's Ruby	Early July	Red	Upright flowers
Cinnabar	Mid-July	Red-orange	Upright flowers
Citronella	Mid-July	Yellow-gold	Turk's cap, strain
Connecticut Maid	Mid-July	Yellow	Upright flowers, nearly spotless
Connecticut Yankee	Mid-July	Orange	Nearly spotless
Coral Lily (pumilum)**	Mid- to late June	Red-orange	Dainty
Corsage	Early July	Pinkish	Flowers have sterile anthers
David Lily (davidii)**	Early July	Orange-red	Prolific grower
Earl of Rochester	Early July	Yellow	Large upright flowers
Enchantment	Mid-July	Bright orange	Upright flowers, prolific grower
Fiesta Hybrids	July	Yellow-red	Strain
Golden Chalice	Mid-June	Golden-orange	Upright flower
Golden Dawn	Late July	Yellow	Strain formerly called Limelight
Golden Gleam	Late June	Orange	Dainty
Golden Splendor	Late July	Yellow	Trumpet, strain
Golden Sunburst	July	Golden-yellow	Flares
Henryi erecta**	Mid- to late August	Orange	Recurved
Imperial Crimson	Mid-August	White and deep crimson	
Imperial Gold	Mid-August	White with yellow throat	
Imperial Silver	Mid-August	White	
Jamboree	Early August	Pink and white	Very fragrant
Korean Lily (amabile)**	Early July	Dark orange	
Meadowlark	Mid-July	Yellow	Upright flowers
Mega	Late June	Yellow	Upright flowers
michiganense**	Mid-July	Orange	Does well in sun or light shade, native
Mildred	Mid-July	Red	Tall, side-facing flowers
Mountaineer	Late June	Dark red-orange	Increases rapidly
Nutmegger	Mid-July	Yellow	Vigorous



Top, left: This lily has trumpet-shaped flowers (many of these flowers are fragrant). Top, right: Enchantment lily has candlestick type flowers. Bottom: This lily has turk's cap flowers. The lily is *Lilium henryi*, a species.

Lily	Bloom period	Color	Remarks
Paisley Hybrids	Late June	Mixed	Strain does best in partial shade
Patterson Hybrids	July	Many colors	Many named selections
Pink Tiger	Mid-July	Pink-orange	Heavily spotted, a few small bulbils
Polar Bear	Mid-July	Nearly white	Upright flowers
Prosperity	Early July	Yellow	Outfacing
Red David	Early July	Red	Selection of <i>L. davidii</i>
Red Tiger	Mid-July	Red	
Regal (regale)**		White	Trumpet, fragrant
Rosabelle	Mid-July	Rose-red	Upright flowers
Sonata (speciosum rubrum)**	Early July	Salmon	
Tabasco	Mid-August	Crimson-white	Fragrant
Tabasco	Early July	Dark red-orange	Upfacing
Treganza Red	Mid-July	Red	Upfacing
Tiger Lily Hybrids	Mid-July	Various colors	All are hardy and vigorous
Trumpet Lilies			Many locally produced trumpets are the most dependable
tsingtauense**	Late June	Bright orange	Does best in shade
White Henryi	Mid-August	White	Cantaloupe-colored throat
White martagon** (martagon album)	Late June	White	Other martagons also recommended, do best in partial shade
Yellow Blaze	Mid-July	Yellow	Heavily spotted
Yellow Bunting	Mid-June	Yellow	Dainty

** indicates that the lily is a species.

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Mention of commercial names does not imply endorsement nor does failure to mention a name imply criticism.

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