Lilium

Cultivation Manual

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INTRODUCTION:
Lilies are classified into the Asiatic, Orientals and Longifloram hybrids, each with its specific characteristics. The Asiatic hybrids are known for their wide array of colours, profuse flowering and smaller size in comparison with Orientals. The Oriental hybrids produce large flowers with a beautiful shape, have a stronger fragrance, and need less light but take longer period to flower harvest, offer less

Asiatic Hybrids:

These lilies are hardy to zone 2 and very easy to grow. They come in all shades and color combinations. These hybrids multiply rapidly and bloom over a long season. The flowers can be up-facing, side-facing or down-facing, vary in height and flower mid season.

Orientals:
These varieties are the most exotic and showy of all lilies. These varieties multiply more slowly. They can be grown on the prairies but it takes a little more effort on your part of amending the soil and providing heavier winter protection of straw, leaves and peat moss. We find that spring planting of these groups allows them to settle in and are more apt to make it through the winter. Protecting them from the first frosts, by covering them with a cardboard box will allow the bulbs to mature more fully for the following year. These large beautiful scented flowers that bloom late summer will be well worth the extra effort needed. For this reason we do not offer replacements for failure to grow on these varieties.

Planting Instructions: Lilies bulbs are never completely dormant so they must be planted as soon as possible. If for some reason you are unable to plant your bulbs immediately, and then keep them refrigerated until you can plant them. Store them in a poly bag in slightly damp peat moss in the crisper of the fridge.

Location:

It is important to choose the right location. Lilies require direct sunlight for part to all of the day. They also require "Well Drained Soil". A medium sandy loam soil with a reasonable amount of humus is ideal. Peat moss can also be added. Heavy soils can be lightened with course sand and peat moss. If using manure make sure it is well rotted and use as top dress only, otherwise it can cause damage to the bulbs by lowering their disease resistance.

Soil and preparation & treatment

- Lilies can be forced to flower in any soil
- Good structure and drainage of soil play major role in production
- Loamy soil with good humus content upto 25 cm depth
- Soil to be top-dressed with straw/paddy husk/garden peat/pine needles

- Soil should be fumigated either by Methyl bromide/Metham sodium/Basamide @30gm./sq.m. or Formaline(150 ml/sq.m. in 10 L water)

Planting: Most lilies should be planted to a depth of 6" and 12-16"apart. Trumpets and orientals should be planted to a depth of 8" for extra winter protection. Place your lily bulb with its roots down and scale points up. A little bone meal may be added at this time. Cover with your soil mixture. Pack the soil in well around your bulb. It is important to thoroughly water your bulbs in after planting, so the soil settles around the bulb to prevent any air pockets. Lilies make a nice show if they are planted in triangular groups of 3 per variety. Leach the soil with water after a week of fumigation

- Irrigate the soil a week before the planting
- Planting should be done immediately on the arrival of bulbs; If not possible store at 2°C.
- pH value desirable between 5.5 – 7.5
- pH value can be changed by adding gypsum or lime
- EC should not be more than 1 milliseimens/cm
- If EC is high, flush with plain water
- Chlorine content in water should not be more than 200 mg/l

Watering:
They do not require daily watering but when watering be sure to water deeply enough to reach the bulb. Avoid wetting the leaves. Excessive watering will cause your bulb to rot.

- Before planting soil should be moist to promote good roots
- Well drained soil requires 8-9 ltr / sq.m/day during summer & 4-5 l/sq.m/day
- Overhead sprinkler system is helpful to maintain adequate microclimate

Fertilizing:

A light to moderate fertilizer (20-20-20) can be applied just before flowering and after blooming is completed to keep bulbs healthy.
Do not fertilize too late in the fall as bulbs can become too soft and rot.

- Fertilizer can go through irrigation system
- Apply 1 cubic meter of well decomposed FYM to 100 sq.m.
- Basal dose of Phosphate and Potash should be added depending on soil test report
- No Flourine containing fertilizer should be used
- Apply 19:19:19 after three weeks @ 1kg/100 sq.m.
- Apply Cal. Nitrate(650gm/100sq.m.) and Pot. Nitrate (300 gm./100sq.m.)

Diseases and Pests:
Botrytis - is a fungus disease, which affects the leaves of lilies, caused by excessive moisture and warm temperatures. The first signs can be brown spots on the leaves. In severe cases the whole leaf and stem can become infected and the whole plant decay and collapse. Injury to plants, like frost or hail will make it easier for Botrytis spores to enter the leaf; spraying is strongly advised very soon after injury. The disease is not carried by the bulb so it will not affect flowering the following year. In early stages of infection, if possible remove noticeable

spotted leaves. Spraying is highly advisable, and is only effective when foliage is dry. A copper spray can be used or natural remedies such as a baking soda mixture (1 tbsp. per gallon of water) sprayed weekly on the foliage during wet periods. Good air circulation will help prevent a outbreak. Planting lilies some distance apart will also control infection. In the fall clean up and burn dead stems and leaves.

Basal Rot - This fungus invades the bulb through the roots and basal plate. The symptoms on the growing plants are usually premature streaky yellowing of the foliage. The disease can become present in warm moist soils. As a preventive, avoid over-watering during warm summer months and provide good drainage. As for infected bulbs, you can remove the infected scales, dip the bulbs in a fungicide solution.

Blue Mold - Because lilies have a high sugar content, bruising or mechanical injury can cause a penicillin mold to form on the injured part of the bulb. This is harmless to the bulb and can be carefully removed. The bulb can be dusted with a fungicide powder and planted as usual.

Virus Diseases - Lily viruses are transmitted largely by aphids. Visible evidence of virus could be all or some of the following; irregular mottling and flecking on the leaves, reduction in plant size and height, distorted growth, color-breaking in the flowers and leaves, brown ring patterns on bulb scales.
A few tips to help control viruses are: Destroy clumps of lilies that show severe infection, insuring that all bulbs and scales are discarded. Remove plants showing infection early in the season. Avoid planting lilies next to other host plants like Tulips or lilium tigrinum (also known as the Tiger Lily). Control aphid infections with the use of insecticides.

Lily Beetle - Long prevalent in Europe, the lily beetle (Lilioceris lilii) has been reported in eastern North America. The larvae and adult beetles feed on the leaves of lilies. The larva is a yellow grub with a dark head, covering itself in dark, slimy excrement. The adult is up to 8 millimetres (0.25 inch) long and bright scarlet with black legs and antennae. Both life stages have voracious appetites and soon devour entire plants. The eggs are laid on the underside of the foliage. The following controls are effective: Spray plants with contact and systemic insecticides; both are effective. Drench soil with a soil insecticide to kill the mature larvae that live just under the soil surface in winter. Also, avoid transporting infested soil to other sites. Catch adult beetles between the fingers and smash them. The lily beetle has only appeared in a few places on this continent, and with care, it should be possible to prevent any lasting infestation.