

two groups, one of which forms roots only at the basal part of the bulb known as basal roots. The other group forms these basal roots also, but in addition many roots are formed on the stem between the bulb and the surface of the ground. Lilies which form basal roots only need not be planted very deep. Madonna lilies, in fact, should only be planted with the top of the bulb 2 to 3 inches below the surface of the soil. Other species of the basal rooting type which includes *L. Hansonii*, *Martagon*, *canadense*, *superbum* and most of the other American native lilies should be planted about 6 to 8 inches deep.

Lilies of the stem rooting group, particularly the vigorous kinds such as *L. Henryii*, *auratum*, *speciosum* and *tigrinum* may be planted 8 inches to 1 foot deep depending on the size of the bulb and the nature of the soil. The larger bulbs and the lighter soils permit deeper planting than heavier soils and smaller bulbs. Lilies with small bulbs such as *L. tenuifolium* and *L. amabile* need not be planted more than 6 to 8 inches deep. *L. rubellum* is a small plant and a depth of 5-6 inches is sufficient.

For plantings on many soils it is advantageous to mix peat, leaf mold, muck or other organic matter with the soil below the bulb. With the stem rooting sorts these materials may also be placed above the bulb where the stem roots will develop. The material should be spaded in to mix it thoroughly with the soil.

A satisfactory practice is to dig a hole deeper than you wish to plant the bulb, mix in top soil and peat or other organic matter to the depth decided for the base of the bulb, place the bulbs on this prepared soil, fill in the hole part way with top soil, add several liberal handfuls of peat or other organic matter and fill the hole with topsoil. It is a good plan to firm the soil well about the bulbs at the time of planting and the soil should be mounded up slightly so as not to leave a depression when the soil settles that will catch water during the winter.

The fact that some species of lilies grow in soils that are poor in nutrients has given rise to the idea that fertilization of all species is harmful. Experience shows this not to be true as practically all species will respond favorably to the application of well rotted manure applied to the surface of the soil, or medium to liberal applications of a good commercial fertilizer such as a 5-10-5 about the base of the plants. Fertilizing can be overdone as evidenced by the fasciation of the stalks.

With most kinds of lilies shading the soil or protecting it from the direct rays of the sun either by some ground cover or by a summer mulch of some loose material such as shredded peat or buckwheat straw is an advantage. For this reason lilies often do well when planted among low growing perennials or annuals or among shrubs. Some of the more vigorous sorts such as *L. tigrinum*, *auratum*, *canadense* are often at their best when the lower parts of the plants are shaded with other vegetation. This is, in fact, the way that they grow in nature. On the other hand, tight vegetation such as myrtle, pachysandra or pulmonaria are harmful probably because they compete directly with the lilies for water and nutrients and further keep water from rain from reaching the lily roots at all. Plantings arranged so that the leaves of perennial or annual vegetation shade the ground but the roots do not occupy the same area are usually satisfactory.