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THE INFLUENCE OF TEMPERATURE ON
THE GROWTH AND FLOWERING OF ORIENTAL LILIES
(Lilium cultivars)

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ABSTRACT

The potentiality of growing dwarf cultivars of Oriental lilies as flowering pot plants was investigated. Two cultivars, *L. auratum* 'Little Gem' and *L. x parkmanni* 'Little Robin' were grown to assess their suitability and determine a predictable schedule of production.

Initially it was established that these plants could be grown satisfactorily in containers and that after adequate vernalization adequate growth and flowering took place.

In bulbs selected after natural senescence, vernalization can be achieved by planting and storing the bulbs outdoors to experience natural winter chilling and also artificially by storage at controlled cool temperatures. Planting prior to artificial cool storage was not advantageous.

There is a minimum period of storage of 35 days and preferably 42 days for both cultivars, while temperatures may range from 1.7°C to 8°C for *L. auratum* 'Little Gem' and to 12°C for *L. x parkmanni* 'Little Robin'.

The periods from planting to emergence and emergence to macroscopically visible flower buds are inversely related to the length of time the bulbs are stored, irrespective of the cool temperature. Subsequent growth to anthesis is directly related to the temperature at which the plants are grown and independent of previous storage times and temperatures. The time required to achieve anthesis is consistent in any one temperature regime.

Although the longer the time the bulbs experience cool temperatures, the sooner the plants achieve anthesis, the total time from commencement of storage to anthesis is similar for all storage periods up to 10 weeks.

When bulbs are inadequately vernalized, growth and flowering is irregular; growth being rosetted and anthesis delayed or occurring spasmodically.

The growth and development of lilies is considered and compared with that of other bulbous geophytes.

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