

## Acclimatization of Bulbous Plants Between Northern and Southern Hemispheres

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During the last decade international transportation of goods has become fast, frequent, and reliable thanks to growth in the airline industry. This has created a worldwide trade in perishable floral products. These products include cutflowers, live plants, and flower bulbs. The term "flower bulb" includes bulbs, tubers, rhizomes, corms, and offsets. These plant modifications which provide food storage for survival during a resting period, create an ideal item for exporting to overseas countries. Millions of bulbs are transported between countries such as Holland and Japan with little difficulty in acclimatisation. Shipping bulbs from the Southern Hemisphere to the Northern Hemisphere creates some problems but also some opportunities.

When considering importing bulbs from the Southern Hemisphere, the environmental conditions that bring on dormancy and break dormancy must be studied. An understanding of flower induction is also necessary to get a controlled result. Bulbs can be put in the following categories:

**1) Evergreens.** No dormancy is required to resume growth, however plants can have leaves and roots trimmed or dried for short periods to enable transportation.

Examples: *Agapanthus*, *Cyrtanthus*, *Tulbaghia*, *Haemanthus*, *Scadoxus*, and *Crinum*.

Import: Small "rootstocks" are received in April/May and grown on for a season before being ready for sale.

**2) Spring Flowering.** Dormant in the summer with sprouting and vegetative growth occurring in autumn and winter.

Examples: *Babiana*, *Cyanella*, *Geissorhiza*, *Gladiolus*, *Ixia*, *Lachenalia*, *Lapeirousia*, *Oxalis*, *Sparaxis*, and *Watsonia*.

Import: Small rootstock is received in March and stored warm until planting in August to grow over autumn, winter, and spring then harvested in summer. Some genera do not produce large enough rootstocks to withstand warm storage or plant quarantine does not allow free importation. In these cases seed must be imported and grown for two seasons.

**3) Summer Flowering.** Dormant in the winter with sprouting and vegetative growth in the Spring.

Examples: *Eucomis*, *Littonia*, *Sandersonia*, and *Zantedeschia* (coloured hybrids).

Import: Flowering size "rootstock" from specialist propagators who can supply from April to October for forcing out of the normal season in greenhouses. For dry

bulb sales in February small rootstock must be received in May/June and grown on one season over summer.

**4) Autumn Flowering.** Dormant in the summer with vegetative growth after flowering in winter and spring.

Examples: *Hippeastrum* (syn. *Amaryllis*) and *Nerine*.

Import: Flowering size "rootstock" in February to flower in April which is opposite to the natural flowering season of October. Many bulbs will reflower again in October after putting on a growth phase over summer. For flowering in the natural season specially treated bulbs are imported in late July.