



Primula: A Temperate Crop and Its Cultivation

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In the quest for diversification in agriculture production system, floriculture has emerged as a prominent and an attractive sector in view of high returns per unit area. Floriculture empowers economy of farmers along with low input cost and act as prominent and an attractive sector in view of high returns per unit area. The article highlights the primula propagation, their growth events, cultivation practices and challenges of this temperate flowering species.

Introduction

With the evolution of world, tiny cells, compact genome and fairy tales represents an entity known as flowering plants. In past 100 million years, angiosperms originated in form of abominable mystery that considered as long standing puzzle for botanists. The illusion of puzzle still persistent but remain focused by scientists that set goal of aggressive pruning of such downsized genome. In 21st century, it is difficult to imagine the earth without flowers. Floriculture has been identified as the fast emerging sector and is now branded as an industry in domestic as well as export market. In the quest for diversification in agriculture production system, floriculture has emerged as a prominent and an attractive sector in view of high returns per unit area. With continuous introduction of new cultivars and even new crops, cultural techniques are changing and hence new products are being developed. Amongst the traditional floricultural products, apart from cut flowers, pot plants occupy a major share as with ever increasing standard of living the demand for pot plant have increased manifolds. Besides increasing the aesthetic value of the location where they are placed, pot plants also reduce indoor air pollution of harmful gases and microbes. Pot plants are generally valued for their foliage and flowering with primula being an important flowering pot plant.

Description of *primula malacoides*

The commonly grown *Primula malacoides* belonging to the family Primulaceae which is a native of China is a non-hardy species generally grown in pots as an annual for indoor use. Known as the fairy primrose because of the light, airy, graceful appearance of both foliage and flowers, the plants form a compact basal mass of thin-textured, pale green, ovate, pointed, deeply dentate foliage with ruffled edges. The inflorescence is a loose, open umbel borne on graceful slender stem which attains a height of 18 inches. The flowers are purple, pale-pink, crimson, rose-red, white or lavender-mauve in colour. The compact and dwarf growth habit as well as freedom of profuse flower production of *Primula* make it especially desirable for growing in pots/containers. A well grown plant will simultaneously produce a number of these elegant flower stems. These are excellent winter and spring flowering herbaceous plants.

Classification

Primula are classified into six sections. This classification also has some bearing on their cultivation.

1. Auriculata Section
2. Candelabra Section
3. Farinosae Section



4. Sikkimensis Section
5. Vernalis Section
6. Non- hardy Primulas



Flowering stages of primula malacoides

Species

Primula aurantiaca, Primula auricular, Primula beesiana, Primula capitata, Primula cortusoides, Primula denticulate, Primula elatior, Primula obconia, Primula frinosa, Primula malacoides Franch.

Cultivation and propagation strategies

Sowing time for this non- hardy species is June- July It prefers a neutral or slightly acidic soil, the plants like a damp, humid atmosphere. In the majority of cases they prefer partial shade. It is mainly cross pollinated crop and self-fertile in nature. It is propagated from seed sown in spring, summer or autumn in pots, flats and sand. The seeds are very fine and the soil should be passed through a small- mesh sieve. Gently press the seed into the soil and cover with adjusting of the same compost. The pots can be placed in an unheated greenhouse or cold frame.

The Germination period lies in range of 2-3 weeks. The species can also easily have propagated by division. At all times care must be taken, that the young plants are not attacked by slugs or snails, two pests which have a great liking for primulas. Over watering can occur especially at low temperatures. Frequently loss of turgidity is observed after several days of dark weather and cold soil temperature. Do not water if medium is moist pull a shade cloth to be safe until soil temperature rises. No height control is normally needed; however, B- nine and Paclobutrazol sprays at 1000 to 2000 ppm can be used if flower stem elongation of primula is excessive. Seedlings develop in plugs and are transplanted to 4-inch (10cm) pots. Pot plants can remain pot to pot for space efficiency until leaves touch; the plants are then spaced at 6x 6 inches (15x15cm).

Harvesting

When the first five to seven flowers are open. It is considered to be highly sensitive to ethylene. In temperate area of India, primroses or primula are grown primarily as autumn to winter and spring flowering plants. Two and more than two-year-old plants of primula start flowering in the second fortnight of September and will keep on blooming till the end of April under wet temperate condition of Himachal Pradesh.

Cultivation threats



1. Common diseases of primula is alfalfa mosaic, anthracnose, aster yellows, bacterial fasciation, downy mildew, foliar nematodes
2. Aphids are a common problem, and thrips, caterpillars, whiteflies, fungus, mites can also occur.
3. Poor growth and chlorotic foliage- due to overwatering and it can be corrected by iron chelate sprays and careful irrigation.
4. Chlorosis, marginal necrosis and tipburn, high pH and magnesium deficiency, Ammonium toxicity, excess nitrogen and high EC cause root injury which also produces leaf problems.



***Primula malacoides* at peak flowering under shade net house at Nauni (Solan)**

Summary

The floriculture sector gained much strength in recent years in India. The rich and diverse germplasm in temperate region supported by favorable topography holding the promises to develop floriculture. Inadequate infrastructure, huge freight cost, poor's logistics, financial crises and natural calamities are the formidable threats being faced by the sector. No doubt, floriculture sustain the farmer's economy but required promising candidates like primula in upcoming year.

References

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