

PROPAGATING AND GROWING PRIMROSES IN THE PACIFIC NORTHWEST

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Primula × *polyantha* and *Primula vulgaris* [syn. *P. acaulis*] are popular perennial bedding plants in the Pacific Northwest. The area's cool summers are ideal for seed germination and mild winters allow gardeners to plant primroses as early as February.

Other areas of the United States are showing increased interest in these species. Growers in California and the southern states produce them for November through February sales. Colder areas of the country grow them as winter potted plants and for bedding plant sales in April and May.

Perennial primroses grow and perform best in cool temperatures. Crop time from seed is six to eight months depending on the cultivar and growing temperature. Growers who specialize in finishing plants can cut crop time by three to five months by purchasing starts. In areas of particularly warm summers, this is the preferred method.

PROPAGATION

Sow primrose seeds in open seed flats or plug trays containing a fine-textured peat-lite mix. Sow 500 to 700 seeds per open seed flat or single sow in plugs. Do not cover the seeds. Although the light requirement is low, it is necessary for optimum germination percentages.

Keep soil constantly moist during the 10 day to 3 week germination period. Allowing the soil to become dry for even 30 min. can drastically decrease germination success. Expect 40 to 80% germination depending on cultivar, temperature, and seed freshness.

Cool temperatures are critical for successful germination and seedling survival. The optimum soil temperature is 60°F. A range from 55°F to 70°F is acceptable but higher temperatures result in expensive losses.

As soon as germination begins, expose seedlings to light levels that do not exceed 1,000 foot candles. Greenhouses must be heavily shaded during the summer to provide low light and cool day temperatures.

When germination is approximately 50% and seedlings have their first true leaves, begin fertilization. A balanced fertilizer at 150 ppm nitrogen supplied in the form of calcium

and potassium nitrate is ideal. Keep seedlings moist and as close to 60°F as possible. They will be ready to transplant 8 to 9 weeks after sowing.

FINISHING

Seedlings can be transplanted directly into 4-in. pots, or, if greenhouse space is at a premium, into 1 or 1½ in. cells. Use a well-drained, light soil mix high in organic matter. Maintain pH levels between 5.0 and 6.0.

Once seedlings are established, decrease watering frequency. Allow plants to wilt very slightly between waterings, then feed with a balanced fertilizer at 200 ppm nitrogen, using mostly CaNO₃ and KNO₃. Have a monthly soil analysis done to monitor pH and nutrition. Primroses are sensitive to high salts. They also develop iron deficiencies in soils with high pH levels.

Plants that are 12 weeks or older can tolerate higher daytime temperatures, although 60°F is still optimum. Do not subject young plants to night temperatures below 50°F until they have reached the 6 to 10 leaf stage. At this point, they are physiologically mature enough to initiate buds (2) and night temperatures can be lowered to 35° to 50°F to finish. The plants will also benefit from higher light levels as they go into fall and winter, so shade should be washed off the greenhouses.

Although it has been demonstrated that primroses can be grown at temperatures warmer than 50°F, (1) cooler temperatures keep foliage compact and peduncles short. Low growing temperatures are particularly sensible for growers who sell primroses as late winter bedding plants. Under cool temperatures, plants should be allowed to wilt slightly between waterings. Do not keep plants constantly moist during the winter months or you will encounter poor growth, chlorotic foliage, and an uncontrollable spread of *Botrytis*.

Maintain good air circulation around the plants at all times to discourage *Botrytis* infections. A weekly application of Exotherm Termil® is an excellent preventive measure. If *Botrytis* is present, remove infected plants and make foliar applications of Chipco 26019 to keep the disease under control.

Insect problems are few, particularly in very cool temperatures. If aphids, mites, or thrips appear, treat with a recommended insecticide.

FLOWER INITIATION

There is a great deal of speculation on what causes flower bud initiation in *P. × polyantha* and *P. vulgaris*. Temperature

and day length, (3) juvenility and light intensity (2) have all been cited as influencing factors. My own observations suggest that the primrose crop will have good bud set if plants are 4 months old before being subjected to low temperatures and we are lucky enough to have a bright winter. (Day length is naturally short and night temperature is between 35° and 40°F.)

CHOOSING CULTIVARS

Each primrose cultivar has its optimum bloom time. Bloom times have been divided into three categories:

Early (December, early January)

Mid (mid-January, early and mid-February)

Late (late February, March)

The following list gives examples of cultivars in each category. Note that *P. vulgaris* types make up the early and mid-bloomers, while *P. × polyantha* types fall into the late category. Early blooming cultivars are the best for forcing.

Early: 'Julian Mix', 'Julian Bicolor', 'Julian Cheerleader', 'Sunrise', 'Peso', 'Pageant', 'Ducat', 'Olympus'.

Mid: 'Julian Goldridge', 'Aalsmeer Giants', 'Festive', 'Dania', 'Finesse'.

Late: 'Jewel', 'Casino', 'Elite', 'Laser', 'Pacific Giants'.

Growers can guarantee continuous bloom in their crops by growing cultivars from each category.

LITERATURE CITED

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