



Crop	Primula
Series	Danessa
Botanical name	<i>Primula acaulis</i>
Plant type	Annual
Seed type	Raw
Seed count	1,000 seeds /gr
Germination	15-20°C -14 days light favored
Growing	10-15°C
Optimum pH	5.8-6.2

Plug Culture: 8 weeks (288 cell tray)

Stage 1 (days 1-14) Single sow into a plug tray filled with media with sterile substrate with high organic matter. Primula seed requires light for germination, but a light cover of vermiculite is recommended to maintain enough moisture. Optimum germination temperature is 18-20°C. Temperatures above 20°C reduce total emergence. Maintain high humidity levels and if needed place the trays in a germination chamber or shaded greenhouse to provide cool conditions.

Stage 2 (days 15-29) When the cotyledons are fully expanded, lower humidity levels but do not allow the plants to dry out. Target 16-17°C to prevent stretching. A light mist 2-3 times per day is beneficial. Primula plants are very sensitive, and the leaves can easily burn in strong light. A light shade is recommended to protect the seedlings from intense sunshine. During periods of high temperatures, the plants grow very slowly. Fertilize with 50-75 ppm of nitrogen to strengthen the seedlings. Select a well-balanced calcium nitrate based fertilizer to produce strong and healthy seedlings.

Stage 3 (days 30-48) The first true leaves have formed. For high quality seedlings it is necessary to maintain cool temperatures and enough humidity. Fertilize the seedlings with 100 ppm of nitrogen as needed to maintain strong growth.

Stage 4 (days 49-56) The seedlings have 3-4 true leaves and are now ready for transplanting. Applying 200 ppm nitrogen a week before transplanting helps the seedlings make the transition from the plug tray to the final container.

Transplant to finish: 10 weeks

Transplanting: Transplant Danessa seedlings into 10 cm pots using well-drained sterile media. Optimum pH is between 5.8 and 6.2.

Temperature: Maintain a temperature of 17-18°C for vegetative growth.

Fertilizer: A well-balanced calcium nitrate-based formulation is recommended. Apply 100-150 ppm of nitrogen as necessary to maintain healthy growth. Increasing potassium promotes higher bud count and more compact plants.

Flower Initiation: Danessa is an extra early flowering type. When the plants have 6-10 leaves and a well-established root system, the plants are receptive to flower bud initiation. Danessa requires less vernalization than Primula Danova and optimum initiation temperature is 4-7°C for three weeks. Cooler temperatures promote higher uniformity.

Crop schedule: Primula Danessa may be sown starting in mid-May with transplanting in early to mid-July for flowering starting in late-September to early October. In contrast, Danova is usually sown in early July with transplanting in late-August and early-September for flowering starting in mid to late-December.

Schedule in Weeks*

Seedling: 15°C for 8 weeks.

Vegetative: 15°C for 4 weeks.

Flower Initiation: 4-7°C for 3 weeks.

Flowering: 12-14°C for 3 weeks.

*Crop time may vary slightly depending on climate and location.

Production Points: In general, Primula is not attractive to pests, but aphids, thrips, white flies and cut worms are the major concerns. Problems with fungus gnats or shore flies are common during the germination and the seedling stage. Primula requires cool conditions and high humidity to produce high quality plants which favors the development of botrytis. Good sanitation, watering early in the day and good air movement helps control and prevent this disease.

Plant growth regulators: In general, Primula growth is controlled with cool temperatures and restricting fertilizer. If necessary, the chemical growth regulators e.g. daminozide, paclobutrazol are effective. Do not apply below 5°C. To avoid over-regulation, multiple applications at lower rates is best. Do not apply after flower bud set.

Culture Watch Point: In areas with extended periods of low light, a higher percentage of polyanthus types may occur along with longer flower peduncles.

All information given is intended for general guidance only and may have to be adjusted to meet individual needs. Cultural details are based on Asian conditions such as in Japan and Sakata cannot be held responsible for any crop damage related to the information given herein. Always follow manufacturer's label instructions. Testing a few plants prior to treating the entire crop is best.