GrowerFacts

Primula Acaulis Primera

(*Primula acaulis*)

Germination

Germination – Optimum conditions for seedling development that begins the day the crop is sown until cotyledon expansion.

Cover: Cover seeds with a thin layer of medium sized vermiculite to maintain moisture levels.

Media:

- pH: 5.5 – 5.8
- EC: <1.0

Light: Light is not necessary for germination. If utilizing a chamber, providing a light source of 10 – 100 foot candles (100 – 1000 lux) will improve germination and reduce stretch compared to seed germinated in the dark.

Temperature: 64° – 68°F (18° – 20°C) until cotyledon expansion; then 60° – 62°F (16° – 17°C) to prevent stretch. Temperatures above 76°F (24°C) will result in a lower germination percentage.

Moisture: Saturated (5), from day 1 – 7. On day 7, lower to moisture level wet (4), and re-saturate to level (5) until day 12, or to full cotyledon expansion. Afterwards, alternate between moisture level wet (4) to moist (3).

Humidity: 100% until day 8 – 10. Make sure that germination is complete before lowering humidity or lower germination percentages may result if humidity is reduced too early.

Dehumidify: On day 8 – 10, lower humidity level to 40 – 50%. Provide horizontal airflow to aid in drying down the media through evapotranspiration, allowing better penetration of oxygen to the roots.

Fertilizers: None needed until cotyledon expansion (approximately day 9 – 10), then feed 50 ppm Nitrogen with an N:K ratio of 1:2 as needed. NOTE: Primula are light feeders.

Plug Production

Germination – Optimum conditions for seedling development that begins the day the crop is sown until cotyledon expansion.

Cover: Cover seeds with a thin layer of medium sized vermiculite to maintain moisture levels.

Media:

- pH: 5.5 – 5.8
- EC: <1.0

Light: Light is not necessary for germination. If utilizing a chamber, providing a light source of 10 – 100 foot candles (100 – 1000 lux) will improve germination and reduce stretch compared to seed germinated in the dark.

Temperature: 64° – 68°F (18° – 20°C) until cotyledon expansion; then 60° – 62°F (16° – 17°C) to prevent stretch. Temperatures above 76°F (24°C) will result in a lower germination percentage.

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Fertilizers: None needed until cotyledon expansion (approximately day 9 – 10), then feed 50 ppm Nitrogen with an N:K ratio of 1:2 as needed. NOTE: Primula are light feeders.

Plug Bulking/Flower Initiation – Optimum conditions during the vegetative
period, beginning at cotyledon expansion, needed for the root to reach the edge of
the plug cell;AND to make the plant receptive to flower initiation.
Media:

- pH: 5.5 – 5.8
- EC: .75 – 1.0

Light: 3000 – 4000 foot candles (30000 – 40000) lux. Avoid direct sunlight.

Temperature: 60° – 65°F (16° – 18°C). After roots are established and plants
have 6 – 8 true leaves, lower temperatures to 45° – 50°F (7° – 10°C) for 4 – 5
weeks. NOTE: A juvenile plant will not respond to cool temperatures and will
result in blind plants. Do not drop temperatures if young plant has not
established 6 – 8 true leaves.

Moisture: Alternate between moisture level moist (3) and medium (2). Allow
the soil to approach level (2) before re-saturating to level (3). Watch for
excess algae growth. Using R/O (Reverse Osmosis) water will help reduce
algae levels.

Fertilizers: Under high light conditions, alternate with an ammonium-based
feed (17-5-17) at 50 – 75 ppm Nitrogen and a calcium-based feed (12-4-20) at
50 – 75 ppm Nitrogen. Under low light conditions, apply a calcium-based feed
(14-2-14) at 50 – 75 ppm Nitrogen. Emphasis should be on potassium during
the majority of the crop's production cycle.

Growth Regulators: None at this time.

Growing On to Finish

Transplant Ready: 6 – 8 weeks from a 288 plug tray.

Finish Bulking/Flower Initiation – Optimum conditions during the vegetative
period, beginning at transplant, needed for the root to reach the edge of the container;
AND to make the plant receptive to flower initiation.
Media:

- pH: 5.5 – 5.8
- EC: 1.0 – 1.5

Light: Provide 3000 – 4000 foot candles (12 – 15 total moles or 30,000 –
40,000 lux) to hasten flower development. Long days may enhance growth.
Avoid direct sunlight as leaf scorch may occur. NOTE: do not allow light level
to exceed 3500 foot candles (35,000 lux) for an extended length of time.

Temperature: Days 50° – 55°F (10° – 12°C); Nights 55° – 60°F (12° – 16°C)
with a negative DIF of 5° – 10°F (1° – 3°C) from 5:00 – 9:00 a.m.

Average Daily Temperature (ADT): 54°F (12°C)

Moisture: Alternate between moisture level moist (3) and medium (2). Allow
soil to reach level (2) before re-saturating to level (3).

Humidity: 40 – 70%

Dehumidify: Provide horizontal airflow to aid in drying down the media
through evapotranspiration, allowing better penetration of oxygen to the roots.

Fertilizers: Finish plants with an N:K ratio of 1:3. In cool weather, maintain
low ammonium levels to avoid excessive vegetative growth and root-rot
problems. Alternate with calcium-based and nitrate-based fertilizers (12-4-20
at 100 – 150 ppm Nitrogen, 14-4-14 at 100 – 150 ppm Nitrogen).

Growth Regulators: If grown cool, PGR's should not be necessary. If needed,
apply B-Nine (daminozide) spray at 2500 – 5000 ppm.

Pre-Shipping Techniques to Enhance Post Harvest Quality
When to treat: 1 – 2 weeks prior to finish or shipping.

Growth Regulators: B-Nine (daminozide) spray at 2500 ppm may be applied
if desired.

Fertilizer: Potassium nitrate at 150 ppm Nitrogen.

Common Diseases: Ramularia and Botrytis. Provide adequate ventilation
between plants and avoid over-saturated conditions. Apply fungicides as needed
according to label rates and directions.

Common Pests: Cutworms,Whitefly, Fungus Gnats, Shore Flies, Leafminers,
Aphids and Thrips. Scout plants on a regular basis and apply appropriate
pesticides according to label rates.

Ball Horticultural Company
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SCHEDULING
Traditionally, Primrose is sown in July. ‘Primera’ is an early season variety for blooming October – January.

Total crop time: 20 – 22 weeks

288 Plug crop time: 6 – 7 weeks

Transplant to finish crop time: 4” crop: 13 – 14 weeks

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