

Coreopsis grandiflora Early Sunrise

(*Coreopsis grandiflora*)

Germination

Approximate seed count (raw): 10, 700 S./oz. (375 S./g)

Key flowering facts:

- First-year-flowering perennial.
- Vernalization: not required.
- Daylength response: Long day crops with critical daylength from 12.5 to 14 hours dependent on variety.
 - Early Sunrise: 14 hours
 - Rising Sun and Sunfire: 13 hours
 - Sun Up: 12.5 hours

Media

Use a well-drained, disease-free, soilless media with a pH of 5.8 to 6.2 and a medium initial nutrient charge (EC 0.75 mmhos/cm).

Sowing

Sow 1-2 seeds per cell in 288; 2-4 seeds per cell in larger plug tray. Covering seed with vermiculite lightly is recommended.

Stage 1 – Germination takes about 5 to 6 days.

Soil temperature: 65 to 68°F (18 to 20°C)

Light: Light is optional.

Moisture: Keep soil wet (level 4) during Stage 1.

Humidity: Maintain 95 to 97% relative humidity (RH) until radicles emerge.

Plug Production

Stage 2

Soil temperature: 71 to 73°F (21 to 22°C)

Light: Up to 2,500 f.c. (26,900 Lux)

Moisture: Reduce soil moisture slightly (level 3 to 4) to allow the roots to penetrate into the media.

Fertilizer: Apply fertilizer at rate 1 (less than 100 ppm N/less than 0.7 mS/cm EC) from nitrate-form fertilizers with phosphorous.

Stage 3

Soil temperature: 68 to 70°F (20 to 21°C)

Light: Up to 2,500 f.c. (26,900 Lux)

Moisture: Allow media to dry further until the surface becomes light brown (level 2) before watering. Keep the moisture level to wet-dry cycle (moisture level 4 to 2).

Fertilizer: Same as Stage 2.

Growth regulators: Generally not needed.

Stage 4

Soil temperature: 65 to 67°F (18 to 19°C)

Light: Up to 5,000 f.c. (53,800 Lux) if temperature can be controlled.

Moisture: Same as Stage 3.

Fertilizer: Same as Stage 2.

Growing On to Finish

Container Size

4 to 5-in. (10 to 12-cm) square/quart pots: 1 plug per pot

Gallon (18-cm) pots: 1 to 3 plugs per pot

Media

Use a well-drained, disease-free, soilless media with a pH of 5.5 to 6.2 and a medium initial nutrient charge (EC 0.75 mmhos/cm).

Temperature

Nights: 55 to 60°F (13 to 16°C)

Days: 60 to 70°F (16 to 21°C)

Light

Maintain light levels as high as possible while maintain moderate temperature.

Photoperiod response

Coreopsis is long-day crop with critical day length from 12.5 to 14 hours dependent on variety.

- Early Sunrise: 14 hours
- Rising Sun and Sunfire: 13 hours
- Sun Up: 12.5 hours

In Spring production, Sun Up flowers about 1 week earlier than Sunfire and Rising Sun and about 2 to 3 weeks earlier than Early Sunrise.

Irrigation

Maintain media moisture wet-dry cycle (moisture level 4 to 2). Avoid both excessive watering and drought.

Fertilizer

Apply fertilizer at rate 3 (175 to 225 ppm N/1.2 to 1.5 mS/cm) using predominately nitrate-form fertilizer with low phosphorus and high potassium. Maintain the media EC at 1.5 to 2.0 mS/cm and pH at 5.8 to 6.2.

For constant fertilizer program, apply fertilizer at rate 2 (100 to 175 ppm N or 0.7 to 1.2 mS/cm) while maintaining the above recommended EC and pH ranges.

Growth Regulators

Coreopsis is responsive to B-Nine/Alar at 2,500 to 5,000 ppm (3.0 to 5.9 g/l 85% formulation or 3.9 to 7.8 g/l of 64% formulation) spray at bud initial stage if necessary.

Pinching

Pinching is not needed.

Spacing

Coreopsis can be grown pot tight, but assure good ventilation and air flow.

Crop Scheduling

Sow to transplant (288-cell): 5 to 6 weeks

Transplant to flower:

Sun Up: 7 to 9 weeks

Rising Sun and Sunfire: 8 to 10 weeks

Early Sunrise: 9 to 12 weeks

Common Problems

Insect: Aphid, Thrips, White fly

Disease: Powdery mildew

Green Thumb Tips

Garden and Landscape Information

- Coreopsis is first-year-flowering perennial in USDA Hardiness Zones 4 to 9.
- Plant in full sun after all danger of frost has passed.
- Space plants at 10 to 14 in. (25 to 36 cm) apart in well-drained soil.
- After plants are established, Coreopsis is quite drought tolerant.

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