

Cosmos Sonata™ Series

(*Cosmos bipinnatus*)

Annuals Culture (revised 01/23/21)

Plug crop time: 4 to 5 weeks

Transplant to finish: 6 to 7 weeks

- The best-performing garden cosmos.
- Extremely easy to grow; professional growers choose Sonata because of its capabilities for blooming in the pack and pot.
- Recommended for 5 to 6-in./13 to 15-cm pots.

General Information

| Exposure | Bloom Season | Height | Spread | Spacing |
|----------|--|-------------------|-------------------------|-------------------------|
| Sun | Spring, Late Spring, Summer, Late Summer | 24 in. (61 cm) | 12-14 in. (30-36 cm) | 12-16 in. (30-41 cm) |

Germination

| Seed Form | Recommended Plug Size | Seeds/Cell | Plug Crop Weeks | Days to Germinate | Initial Media pH/EC (1:2) | Cover Seed |
|-----------|-----------------------|------------|-----------------|-------------------|--------------------------------|------------|
| RAW | 288 | 1 | 4-5 | 3-4 | 5.7-5.9 pH 0.3-0.5 mmhos/cm | Yes |

Plug Production

| | Stage 1 | Stage 2 | Stage 3 | Stage 4 |
|--------------------|----------------------|---|-------------------------------------|-------------------------------------|
| Moisture | Level 4 | Level 3-4 | Level 2-3 | Level 2-3 |
| Temperature | 61-65°F (16-18°C) | 61-65°F (16-18°C) | 61-65°F (16-18°C) | 61-65°F (16-18°C) |
| Light | Optional | | | |
| Fertilizer | | Less than 100 ppm N (Less than 0.7 EC) | 100 to 175 ppm N (0.7 to 1.2 EC) | 100 to 175 ppm N (0.7 to 1.2 EC) |

Propagation Key Tips

Can treat the plugs at early Stage 1 with Bonzi at 15 ppm applied as a spray to control early stretch. Daylength extension in the plug stage may be used to prevent premature flowering.

Growing on to Finish

| Growing on Temperature | Target Media pH/EC (1:2) | Fertilizer | Daylength |
|--|--------------------------------|-------------------------------------|-----------------------|
| (day) 64-68°F (18-20°C) (night) 60-64°F (16-18°C) | 5.8-6.2 pH 1.0-1.5 mmhos/cm | 100 to 175 ppm N (0.7 to 1.2 EC) | Facultative Short Day |

Daylength Notation

Cosmos flowers faster under short days. Daylength extension in the plug stage to more than 12 hours daylength may be used to prevent premature flowering.

Crop Scheduling

| Container Size | Plugs/Pot | Crop Time | Season | PGR |
|----------------|-----------|-------------|--------|-----|
| 4"/4.5"/Quart | 1 (ppp) | 6-7 (weeks) | Spring | - |
| 5"/6"/1 Gallon | 1 (ppp) | 7-8 (weeks) | Spring | - |

Fertilizer Notation

Reduce N and increase K in fertilization closer to bud stage.

Common Problems

Insects: Aphids, Thrips

NOTE: Growers should use the information presented here as guidelines only. PanAmerican Seed recommends that growers conduct a trial of products under their own conditions. Crop times will vary depending on the climate, location, time of year, and greenhouse environmental conditions. It is the responsibility of the grower to confirm the treatment is available in their region as well as read and follow all the current label directions relating to the products. Nothing herein shall be deemed a warranty or guaranty by PanAmerican Seed of any products listed herein. PanAmerican Seed's terms and conditions of sale shall apply to all products listed herein.

Variety Pictures



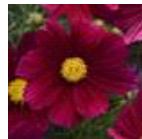
Carmine



Pink



Pink Blush



Purple Shades



Red Shades



White



Complete
Mixture

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