

Cosmos Sonata™ Series

(*Cosmos bipinnatus*)

Annuals Culture (revised 10/23/18)

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	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	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	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

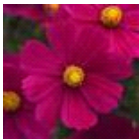
Reduce N and increase K in fertilization closer to bud stage.

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



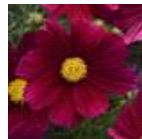
Carmine



Pink



Pink Blush



Purple Shades



Red Shades



White



Complete
Mixture

PanAmericanSeed™

PanAmerican Seed Co.
622 Town Road, West Chicago, Illinois, USA, 60185-2698
630 231-1400 Fax: 630 231-3609 PanAmSeed.com

™ denotes a trademark of and ® denotes a registered trademark of Ball Horticultural Company in the US. It may also be registered in other countries.
©2019 Ball Horticultural Company