



## Matthiola Tosca Series

(*Matthiola incana*)

Cut Flowers Culture (revised 01/23/21)

Tosca is a seedling selectable type matthiola, resulting in maximum yield. It requires less cold during bud formation, resulting in a more programable series in warmer conditions.

### General Information

Cultivation Type	Usage	Stem Length	Timing Group
Greenhouse, Tunnel	Line	24-32 in. (61-81 cm)	3

### 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	5-6	2-4	5.6-5.9 pH 0.5 mmhos/cm	Yes

### Plug Production

	Stage 1	Stage 2	Stage 3	Stage 4
<b>Moisture</b>	Level 4	Level 3-4	Level 2-3	Level 1-2
<b>Temperature</b>	59-64°F (15-18°C)	59-64°F (15-18°C)	59-64°F (15-18°C)	59-64°F (15-18°C)
<b>Light</b>		1,500-2,500 f.c. (16,100-26,900 Lux)	1,500-2,500 f.c. (16,100-26,900 Lux)	2,500-5,000 f.c. (26,900-53,800 Lux)
<b>Fertilizer</b>	Less than 100 ppm N (Less than 0.7 EC)	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

Double-flowering matthiola may be selected from single-flowering types by exposing seedlings with fully expanded cotyledons to 41°F (5°C) for approximately 3 to 5 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.

### Growing on to Finish

Target Media pH/EC (1:2)	Fertilizer	Daylength
5.8-6.5 pH 1.5-2.0 mmhos/cm	175 to 225 ppm N (1.2 to 1.5 EC)	-

### Crop Scheduling

Cultivation Type	Support	Temperature	Density	Crop Time
Greenhouse	Recommended	16-18°C/60-65°F (day) 13-16°C/55-60°F (night)	6-7 plants/ft² (65-75 plants/m²)	9-11 weeks

## Common Problems

To protect against root problems, it's recommended to sterilize (steam or other) the soil after the first crop if several crops will be grown in the same soil over the year. Matthiola is sensitive to Fusarium.

## Finishing Key Tips

Double-flowering matthiola may be selected from single-flowering types by exposing seedlings with fully expanded cotyledons to 41°F (5°C) for approximately 3 to 5 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.

## Harvest

Harvest when 3-5 florets have opened.

## Post Harvest

Matthiola are sensitive to ethylene; it is recommended to treat with an ethylene-inhibiting product. Hydrate and store in a cooler at 1-3°C (34-38°F) in commercial floral holding solution at the manufacturer recommended rates.

## Vase Life

5-8 days

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

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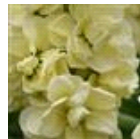
Blue Sea



Rose



White



Yellow



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PanAmerican Seed Co.  
622 Town Road, West Chicago, Illinois, USA, 60185-2698  
[info@bloomstudios.com](mailto:info@bloomstudios.com)

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