Portulaca grandiflora F_1

Sundial

Sundial — Perfect for Packs, Pots & Baskets



- Short crop time, fast growing
- Vigorous, well branched habit
- For pots, packs and baskets
- Wide color range with exciting tones

Crop Time	Spring: 10 - 12 weeks
Height ⌀	5 " / 13 cm
Width ⌀	11 " / 28 cm
Flower Size ⌀	2 " / 4 cm
Exposure	Sun
Seed Form	Raw Seed, Multipelleted Seed
Product Use	Packs, Pots, Mixed Containers, Landscape
Family, Origin	Solanaceae, Portulaceae, South America
Minimum Germ. Rate	85%

TECHNICAL GUIDE

Portulaca grandiflora F_1 Sundial

Flowering

Flowering Type: Obligate long day plant: Requires long days greater than 11 hrs. for flower initiation to occur. Providing a daylength greater than 12 hrs. will ensure early flowering.

Flowering Mechanism: Long days, higher light levels and increased temperatures will shorten the total crop time. Supplemental lighting is beneficial during germination but is not necessary.

Note: The critical day length is 10 ½ hrs. where short days may cause the plants to rosette and not recover and flower.

Plug Culture

Germination: Optimum conditions for seedling development, beginning on the day of sowing until radicle emergence. Expect radicle emergence in 2-3 days.

Cover: No covering is necessary unless drying down before emergence is a concern. Then cover lightly with vermiculite or media.

Sowing method: 1 multipellet per cell.

Media: pH 5.5–6.2; EC 0.5 High salt levels can inhibit germination.

Temperature: 22–26 °C (72–78 °F). **Moisture:** Begin with a saturated (5) media moisture to help break down the pellet. On day 2 start to reduce the moisture level to a wet (4) since Portulaca are very sensative to high moisture levels.

Humidity: 95–100 % until day 5; then reduce to 40–60 %. Provide proper ventilation and horizontal airflow to improve oxygen levels in the media. **Light:** Light is not necessary for germination but will benefit in the uniformity of germination.

Fertilizer: Maintain an EC < 1.0. In the early stage fertilized water should not exceed an EC of 0.5.

Plug Bulking and Flower Initiation: Optimum conditions during the vegetative stage from cotyledon expansion to flower initiation. This stage is when the seedlings root to the edge of the plug and reach the 4–6 true leaf stage where flower initiation occurs.

Media: pH 5.5–6.2; EC 1.0–1.2.

Light: 6–8 mol/m2/day (2000–2500 ft. candles or 20,000–25,000 lx) Provide a daylength > 12 hrs. to aid flower initiation. Minimum daylength required is > 10 ½ hrs. to prevent rosetting. In daylength extension, lower light levels of 100–15 ft. candles (100–150 lx) are all that is required.

Temperature: 20-22 °C (68-72 °F).

Moisture: Once fully expanded cotyledons develop the media moisture should level alternate between a wet (4) and a moist (3). On day 14 begin to dry back to a medium (2). Allow the media to dry back to a medium (2) before re-saturating to a wet (4).

Fertilizer: Keep ammonium and phosphorous levels low by using a complete calcium based fertilizer. Begin feeding at low levels of 50-60 ppm and gradually work up to feeding at 100 ppm using 14-0-14, 14-2-14 or 15-0-15 fertilizers. When the plants become more mature, at the end of the bulking stage, higher rates of fertilizer can be applied at 100-150 ppm. Under higher light conditions an occasional supplemental feeding with an ammonium based fertilizer 20-10-20 at 150 ppm can be made.

Growth Regulators: No growth regulators should be necessary.

Fungicides: Apply fungicides as needed, especailly under low light conditions. Portulaca are susceptible to rhizoctonia.

Growing On
Media: pH 5.5-6.2; EC 1.2-1.5.

Light: After transplanting provide plants with light levels of 18 mol/m2/day (5000 ft. candles or 50,000 lx).

Temperature: 19-20 °C (66-68 °F) nights, 20-24 °C (68-76 °F) days for the first 14 days or until the roots reach the bottom of the container. Thereafter temperatures may be lowered slightly to 18-19 °C (64-66 °F) nights and 20-24 °C (68-76 °F) days. An ADT (average daily temperature) of 19 °C (66 °F) will give the fastest finished crop. Temperatures below 18 °C (64 °F) will inhibit flowering and vegetative growth.

Moisture: Provide a good wet dry cycle. Alternate between moisture levels wet (4) and medium (2). Allow plants to reach a dry (1) before re saturating to a wet (4). Never allow plants to have any free moisture on them going into the night. This promotes disease issues, especially with rhizoctonia.

Humidity: 40-60 % humidity is ideal. Providing good ventilation and horizontal airflow will help lower the humidity and dry back the media, providing oxygen to the roots.

Fertilizer: Portulaca require moderate fertilization levels. Fertilize every other irrigation alternating between a calcium based feed and an ammonium based fertiizer at 150-200 ppm. Alternate between a 15-0-15 or a 14-2-14 fertilizer and a 20-10-20 or a 17-5-17.

Growth Regulators: No growth regulators are necessary if allowing the media to dry back sufficiently between watering. If needed some that may be used are B-Nine, Bonzi and Sumagic.

Fungicide: Apply fungicides during long periods of low light and high humidity.

Common Diseases: Phytopthora, pythium and rhizoctonia.

Pests: Primarily aphids and thrips.

Post Harvest: Fertilize with Potassium nitrate at 100 ppm 1-2 weeks prior to shipping.

Plug & Finished Crop Time
Plug Crop Time

288 tray: 4-5 weeks

Finished Crop Time

Packs: 5 weeks

10 cm (4") pots: 5-6 weeks

25 cm (10") baskets (3*): 6-7 weeks

Timing & Positioning Charts



Expert Tip

Portulaca have a sensitive root system so over-watering or periods of high moisture levels result in a poor root system and promote disease issues. Lighting of young plants and providing long days >12 hrs. will result in earlier flowering.

Moisture Codes

Saturated (5)	Water is easily observed when finger is pressed on cell. Water moves freely from the top of the plug to the bottom.
Wet (4)	Media looks black and is not glistening. The media feels wet to the touch but there is very little water movement.
Moist (3)	Water is not easily visible. When finger is pressed on the cell there is very little movement from top to bottom.
Medium (2)	Media is not black, but now looks medium brown. There is no water movement when pressed with finger.
Dry (1)	Media has changed color to a very light brown and is dry to the touch.

All information in our technical guide is based on our own trials and would therefore be as guideline only. Detailed cultivation aspects vary depending on climate, location, time of year and environmental conditions. Benary expressly disclaims any responsibility for the content of such data/information and makes no representation or warranty for the cultivation of any products listed. It is recommended that growers conduct a trial of products under their own conditions.

COLORS OF THE SERIES

Portulaca grandiflora F_1 Sundial



Cream
PG2202R/U



White
PG2213R/U



Gold
PG2204R/U



Yellow
PG2214R/U



Orange
PG2205R/U



Tangerine
PG2209R/U



Deep Red
PG2212R/U



Scarlet
PG2211R/U



Coral
PG2210R/U



Chiffon
PG2201R/U



Fuchsia
PG2203R/U



Light Pink
PG2208R/U



Pink
PG2207R/U



Peppermint
PG2206R/U



Caliente Mix
PG2298R/U



Mix
PG2299R/U



Peach Mix
PG2295R/U



Valentine Mix
PG2297R/U



Volcano Mix
PG2296R/U