

## Portulaca Tutti Frutti Mix

(*Portulaca grandiflora*)

### Germination

#### STAGE 1: Time of radicle emergence (2-3 days)

- Soil temperature 78-80°F (26-27°C).
- Keep media evenly moist but not saturated.
- Do not cover or bury the seed.
- Light is not necessary for germination until radicle emergence.
- Soil pH 5.5-5.8 and soluble salts (EC) less than 0.75 mmhos/cm (2:1 extraction).
- Portulaca is very sensitive to high salts, particularly high ammonium, during germination.
- Keep ammonium levels less than 10 ppm.

### Plug Production

#### STAGE 2: Stem and cotyledon emergence (7 days)

- Soil temperature 72-75°F (22-24°C).
- Reduce moisture levels once radicle emergence occurs! Allow the soil to dry out slightly before watering for best germination and rooting.
- Keep soil pH 5.5-5.8 and EC less than 0.75 mmhos/cm.
- Keep ammonium levels less than 10 ppm.
- Begin fertilizing with 50 75 ppm N from 14 0 14 or a calcium/potassium nitrate feed once cotyledons are fully expanded.
- Alternate feed with clear water.
- Irrigate early in the day so foliage is dry by nightfall to prevent diseases.

#### STAGE 3: Growth and development of true leaves (14-21 days)

- Soil temperature 68-72°F (20-22°C).
- Allow the soil to dry thoroughly between irrigations but avoid permanent wilting to promote root growth and control shoot growth.
- Portulaca prefers warm and dry conditions, and best root growth will be obtained under these conditions.
- Maintain soil pH 5.5-5.8 and EC less than 1.0 mmhos/cm.
- Increase feed to 100 150 ppm N from 20 10 20 alternating with 14 0 14 or other calcium/potassium nitrate fertilizer
- Fertilize every 2 3 irrigations.
- Supplement with magnesium 1 2x during this stage, using magnesium sulfate (16 oz/100 gal) or magnesium nitrate. Do not mix magnesium sulfate with calcium nitrate as precipitate will form!
- Use DIF whenever possible, especially the first 2 hours after sunrise, to control plant height.

- Portulaca responds to B-Nine.

#### STAGE 4: Plants ready for transplanting or shipping (7 days)

- Soil temperature 65-68°F (18-20°C).
- Allow soil to dry thoroughly between irrigations.
- Moisture control is the best method for preventing damping off and controlling height.
- Maintain soil pH 5.5-5.8 and EC less than 0.75 mmhos/cm.
- Fertilize with 14 0 14 or calcium/potassium nitrate feed at 100 150 ppm N as needed.

### Growing On to Finish

#### TEMPERATURE

**Night** - 60-65°F (16-18°C)

**Day** - 65-70°F (18-21°C)

#### WATER

Do not overwater! Allow the media to dry thoroughly between irrigations.

#### LIGHT

Maintain light levels as high as possible while maintaining moderate temperatures. Full sun for growing on and toning.

#### MEDIA

Use a well-drained, disease-free soil-less medium with a medium initial nutrient charge and a pH 5.5-6.2.

#### FERTILIZATION

- Fertilize every other irrigation with 15-0-15 alternating with 20-10-20 at 150-200 ppm nitrogen.
- Maintain medium electrical conductivity around 1.0 mmhos/cm (using 1:2 extraction).

#### CONTROLLING HEIGHT

- Once plants are rooted to the sides of the containers they can be allowed to wilt prior to irrigation to provide some height control.
- Height can also be controlled by withholding fertilizer, especially phosphorous and ammonium-form nitrogen.
- Portulaca are responsive to day/night temperature differential (DIF), and are shorter with a negative

DIF.

- Portulaca responds to B-Nine.

## Post Production Care

### TEMPERATURE

Optimum temperatures for Portulaca:

**Night** - 60-65°F (16-18°C)

**Day** - 65-70°F (18-21°C)

- Optimum conditions may be difficult to maintain, especially if plants are displayed outside
- Using a negative DIF will help keep the plants short and of high quality.

### WATER

Allow the soil to dry between watering. Portulaca does not respond well to excessively wet media.

### LIGHT

Full sun.

