

## Celery Peppermint Stick

(*Apium graveolens*)

### Germination

#### Stage 1 – Time of radicle emergence (8 to 10 days)

- Soil temperature 70 to 72°F (21 to 22°C).
- Soil pH 5.5 to 5.8 and soluble salts (EC) less than 0.75 mmhos/cm (2:1 extraction).
- Celery is very sensitive to high salts, particularly high ammonium, during germination.
- Keep ammonium levels to less than 10 ppm.
- Cover the seed with coarse vermiculite.

### Plug Production

#### Stage 2 – Stem and cotyledon emergence (7 to 10 days)

- Soil temperature 62 to 65°F (17 to 18°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 to 5.5 to 5.8 and EC less than 0.75 mmhos/cm.
- Keep ammonium levels to less than 10 ppm.
- Begin fertilizing with 50 to 75 ppm N from 14-0-14, 15-5-15 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 (10 to 14 days)

- Soil temperature 62 to 65°F (17 to 18°C).
- Allow the soil to dry thoroughly between irrigations but avoid permanent wilting to promote root growth and control shoot growth.
- Maintain soil pH at 5.5 to 5.8 and EC less than 1.0 mmhos/cm.
- Increase feed to 100 to 150 ppm N from 20 10 20 alternating with 14 0 14, 15-5-15 or other calcium/ potassium nitrate fertilizer.
- Fertilize every 2 to 3 irrigations.
- Supplement with magnesium 1 to 2 times during this stage, using magnesium sulfate or magnesium nitrate. Do not mix magnesium sulfate with calcium nitrate as precipitate will form.

#### Stage 4 – Plugs ready for transplanting or shipping (7 days)

- Soil temperature 60 to 62°F (16 to 17°C).
- Allow soil to dry thoroughly between irrigations.
- Maintain soil pH at 5.5 to 5.8 and EC less than

0.75 mmhos/cm.

- Fertilize with 14-0-14, 15-5-15 or calcium/ potassium nitrate feed at 100 to 150 ppm N as needed.

### Growing On to Finish

#### Temperature

- **Night:** 58 to 60°F (14 to 15°C)
- **Day:** 60 to 65°F (15 to 18°C)

#### Light

Maintain light levels as high as possible while maintaining moderate temperatures.

#### Media

Use a well-drained, disease-free soilless medium with a medium initial nutrient charge and a pH of 5.5 to 6.2.

#### Fertilization

- Fertilize every other irrigation with 15-0-15 or 15-5-15 alternating with 20-10-20 at 150 to 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.
- Chemical PGRs can not be used on most vegetables and herbs.

### Post Production Care

#### Optimum Temperature

- **Night:** 62 to 65°F (17 to 18°C)
- **Day:** 65 to 70°F (18 to 21°C)
- Celery prefers cool temperatures; temperatures below 70°F (21°C) are recommended during retail display.
- Optimum conditions may be difficult to maintain, especially if plants are displayed outside.

**Light**

Celery grows best in full sun; however partial shading may be beneficial during retail display.

**Common Problems**

**Insects:** Aphids, Whitefly, Fungus gnats

**Diseases:** Pythium, Rhizoctonia

