

## Juncus Twister

(*Juncus effusus spiralis*)

### Germination

Germination takes about 10 to 13 days.

**Soil temperature:** 70 to 78°F (21 to 26°C).

**Light:** Light is optional.

**Moisture:** Keep soil wet (level 4) during Stage 1.

**Humidity:** Maintain 100% relative humidity (RH) until radicles emerge.

### Plug Production

#### Media

Use a well-drained, disease-free, soilless media with a pH of 5.5 to 6.2 and a medium initial nutrient charge (EC 0.75 mmhos/cm).

#### Sowing

Can be produced in a 288, 128, 72 liner (European size: 264) or a similar size plug tray. Do not cover pellets.

**Stage 1** – Germination takes about 10 to 13 days.

**Soil temperature:** 70 to 78°F (21 to 26°C).

**Light:** Light is optional.

**Moisture:** Keep soil wet (level 4) during Stage 1.

**Humidity:** Maintain 100% relative humidity (RH) until radicles emerge.

#### Stage 2

**Soil temperature:** 68 to 70°F (20 to 21°C).

**Light:** Up to 2,500 f.c. (26,900 Lux).

**Moisture:** Reduce soil moisture slightly (level 3) to allow the roots to penetrate into the media.

**Fertilizer:** Apply fertilizer at rate 1 (less than 100 ppm N/less than 0.7 mS/cm EC) from nitrate-form fertilizers with low phosphorous.

#### Stage 3

**Soil temperature:** 68°F (20°C)

**Light:** Up to 2,500 f.c. (26,900 Lux).

**Moisture:** Allow media to dry until the surface becomes light brown (level 2) before watering. Do not allow the seedlings to wilt.

**Fertilizer:** Increase fertilizer to rate 2 (100 to 175 ppm N /0.7 to 1.2 mS/cm EC).

**Growth Regulators:** Not needed.

#### Stage 4

**Soil temperature:** 64 to 66°F (18 to 19°C).

**Light:** Up to 5,000 f.c. (53,800 Lux) if temperature can be controlled.

**Moisture:** Maintain wet/dry cycle. Do not allow the seedlings to wilt.

**Fertilizer:** Same as Stage 3.

### Growing On to Finish

#### Media

Use a well-drained, disease-free, soilless media with a pH of 5.5 to 6.2 and a medium initial nutrient charge (EC 0.75 mmhos/cm).

#### Transplanting

Do not bury the plugs too deep when transplanting.

#### Temperature

**Nights:** 59 to 64°F (15 to 18°C)

**Days:** 66 to 74°F (19 to 23°C)

Twister can be grown under temperatures as low as 50°F (10°C) but the crop time will increase significantly.

#### Light

Maintain light levels as high as possible if temperature can be controlled.

#### Irrigation

Maintain medium moisture conditions. Twister can be even grown under saturated condition.

#### Fertilizer

Apply fertilizer at rate 3 (175 to 225 ppm N/1.2 to 1.5 mS/cm EC) once a week from nitrate-form fertilizer with low phosphorus. Avoid using excessive ammonia nitrogen-form fertilizers and overfeeding, as these will

result in less upright plants.

**Growth Regulators**

PGRs are not needed.

**Pinching**

Pinching is not needed.

**Spacing**

Can be grown pot tight.

**Container Size**

306 premium pack: 1 plug per cell  
2.5-in. (6-cm) pot: 1 plug per pot  
4-in. (10-cm) pot: 1 plug per pot  
6-in. (15-cm) pot: 1 to 3 plugs per pot  
1-gallon (18-cm) pot: 1 to 3 plugs per pot

**Crop Scheduling**

**Sow to transplant (406 to 288-cell plug tray):**

7 to 8 weeks. Add one more week for a 128-cell plug tray.

**Transplant to saleable size:**

**Container Size:** 306 premium pack

**Plants per Pot/Basket:** 1

**Weeks from Transplant:** 6-7

**Total Weeks:** 13-15

**Container Size:** 2.5-in. (6-cm) pot

**Plants per Pot/Basket:** 1

**Weeks from Transplant:** 5-6

**Total Weeks:** 12-13

**Container Size:** 4 to 4.5-in. (10 to 11-cm) pot

**Plants per Pot/Basket:** 1

**Weeks from Transplant:** 7-8

**Total Weeks:** 14-16

**Container Size:** 6 to 6.5-in. (15 to 16-cm) pot

**Plants per Pot/Basket:** 3

**Weeks from Transplant:** 7-8

**Total Weeks:** 14-16

**Container Size:** Gallon

**Plants per Pot/Basket:** 3

**Weeks from Transplant:** 7-8

**Total Weeks:** 14-16

**NOTE:** The transplant to finish time for 6-in. (15-cm) and gallon containers is based on 3 plugs per pot. Add 2 more weeks to the crop time when planting 1 plug per 6-in. (15-cm) and gallon (18-cm) container.

**Common Problems**

No major insect or disease issues.

**Note:** Growers should use the information presented here as a starting point. Crop times will vary depending on the climate, location, time of year and greenhouse environmental conditions. Chemical and PGR recommendations are only guidelines. It is the responsibility of the applicator to read and follow all the current label directions for the specific chemical being used in accordance with all regulations.

**Garden & Landscape Information**

**Location:** Full sun to full shade

**Garden height:** 12 to 14 in. (30 to 35 cm)

**Garden spread:** 12 to 14 in. (30 to 35 cm)

**USDA Hardiness Zone:** to 5 (-20°F/-29°C minimum temperature)

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