

## Vinca Titan™

(*Catharanthus roseus*)

### Germination

Approximate seed count: Titan 14,875 S./oz. (525 S./g); Valiant 18,500 S./oz (650 S./g)

#### Media

Use a well-drained, disease-free, soilless medium with a pH of 5.8 to 6.0 and a medium initial nutrient charge (EC 0.75 mmhos/cm).

#### Sowing

Can be produced in 288 or similar cell size plug trays. Cover the seed with vermiculite. Allow 3 to 5 days for germination.

**Stage 1** – Germination takes 3 to 5 days.

**Soil Temperature:** 75 to 78°F (24 to 25°C)

**Light:** Not required

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

**Humidity:** Maintain 95% relative humidity (RH) until the cotyledons emerge.

### Plug Production

#### Stage 2

**Soil temperature:** 70 to 72°F (21 to 22°C)

**Light:** Up to 2,500 f.c. (26,900 Lux), DLI 8 to 10 moles•m<sup>-2</sup>•d<sup>-1</sup>.

**Moisture:** Reduce soil moisture slightly (level 3 to 4) 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:** 70 to 72°F (21 to 22°C)

**Light:** Up to 2,500 f.c. (26,900 Lux), DLI = 10 moles•m<sup>-2</sup>•d<sup>-1</sup>.

**Moisture:** Allow media to dry further until the surface becomes light brown (level 2) before watering. Keep the moisture to wet-dry cycle (moisture level 4 to 2).

**Fertilizer:** Increase fertilizer to rate 2 (100 to 175 ppm N/0.7 to 1.2 mS/cm EC). Maintain medium pH of 5.8 and EC between 1.0 and 1.5 mS/cm (1:2 extraction).

#### Stage 4

**Soil temperature:** 70 to 72°F (21 to 22°C)

**Light:** Up to 5,000 f.c. (53,800 Lux) if temperature can be controlled. DLI = 10 moles•m<sup>-2</sup>•d<sup>-1</sup>

**Moisture:** Same as Stage 3

**Fertilizer:** Same as Stage 3

**Growth Regulators:** Not needed

### Growing On to Finish

#### Media

Use a well-drained, disease-free, soilless media with a pH of 5.5 to 6.0 and a medium initial nutrient charge (EC 0.75 mmhos/cm).

#### Temperature

**Nights:** 65 to 68°F (18 to 20°C)

**Days:** 75°F (24°C) or above

#### Light

As high as possible (DLI = 12 moles•m<sup>-2</sup>•d<sup>-1</sup>) while maintaining optimal production temperatures.

#### Irrigation

Maintain even moisture. Avoid excessive media and foliage wetness as these conditions are favorable for disease incidence.

#### Fertilizer

Starting 1 week after transplant, apply fertilizer at rate 4 (225 to 300 ppm N/1.5 to 2.0 mS/cm) once a week using predominately a nitrate-form fertilizer with low phosphorus and high potassium. Maintain the media EC at 1.5 to 2.0 mS/cm and pH at 5.8. For constant fertilizer program, fertilizer can be applied at rate 3 (175 to 225 ppm N/1.2 to 1.5 mS/cm) while maintaining the above recommended EC and pH ranges.

### **Growth Regulators**

Plant growth regulators may not be necessary for this series. Negative DIF can be used to control height.

Note: Phytotoxicity has been reported on Catharanthus roseus with Bonzi, Sumagic and Topflor. B-Nine and A-Rest can be used for height control if needed.

### **Crop Scheduling**

**Sow to transplant (288 cell):** 5 weeks

**Transplant to finish in 306-packs or 4-in. (10-cm)**

**pot:** 3 to 5 weeks

**Total crop time from sow to finish:** 8 to 10 weeks.

The timing is dependent on temperature and light levels.

### **Common Problems**

**Insect:** Spider mites, thrips, aphids and mealy bugs.

**Disease:** Rhizoctonia, Botrytis, Phytophthora (for Valiant, see note below), Rhizopus, Pythium, Thielaviopsis, Alternaria, Ulocladium and Tomato Spotted Wilt Virus

**Note:** Valiant has intermediate resistance to Phytophthora as determined by the International Seed Federation guidelines.

**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.

