

# Tuscany®

VERBENA HYBRIDA

**Minimum Germination Rate:** 85%**Seed Product Form:** Raw**FLOWERING****Time Frame when plants are receptive to flower initiation:** Days 18 – 24; 4 – 6 leaves present.**Flowering Type:** Facultative Long Day Plant – long days enhance flowering.**Specific Flowering Mechanism:** Maturity of plant and high light will trigger flowering.**PLUG CULTURE****Germination** – Optimum conditions for seedling development that begins the day the crop is sown until cotyledon expansion.

Expect radicle emergence in 4 – 7 days.

**Cover:** Cover seeds with a thin layer of medium sized vermiculite to maintain moisture levels.**Media:** • pH: 5.8 – 6.0  
• EC: <1.0**Light:** Light is not necessary for germination. If utilizing a chamber, providing a light source of 10 – 100 foot candles (100 – 1000 lux) will improve germination and reduce stretch compared to seed germinated in the dark.**Temperature:** 74° – 75°F (23° – 24°C) day and night from day 1 until day 4 – 7, or when cotyledons appear.**Moisture:** Water in plug trays before seeding to moisture level moist (3+), and maintain at (3+) for days 1 – 8 or until radicle emergence. For days 9 – 11, water trays to moisture level wet (4), and allow trays to approach level (3) before re-saturating. Beginning day 12, begin alternating between moisture level wet (4), and level medium (2).**Humidity:** 100% from day 1 – 9 or until seed coats are shed.**Dehumidify:** On day 9 or after seed coats have shed, reduce to 40%. Provide horizontal airflow to aid in drying down the media through evapotranspiration, allowing better penetration of oxygen to the roots.**Fertilizers:** Maintain EC at <1.0. Fertigation water should not be greater than an EC of 0.5.**Plug Bulking/Flower Initiation** – Optimum conditions during the vegetative period, beginning at cotyledon expansion, needed for the root to reach the edge of the plug cell; AND to make the plant receptive to flower initiation.**Media:** • pH: 5.8 – 6.0  
• EC: 1.0 – 1.2**Light:** Provide 3500 – 4500 foot candles (12 – 15 total moles or 35,000 – 45,000 lux) to hasten flower induction. Supplemental lighting under low light conditions at 350 – 450 foot candles (35,000 – 45,000 lux) will enhance shoot and root growth.**Temperature:** 67° – 68°F (20°C) from day 7 – 18. Then 67°F (19°C) night temperature and 62°F (17°C) day temperature.**Moisture:** Alternate between moisture levels wet (4), and moist (3). Allow media to approach level moist (3), before re-saturating to level wet (4).**Fertilizers:** Under high light conditions, apply an ammonium-based feed (17-5-17) at 50 – 75 ppm Nitrogen. Under low light conditions, apply a calcium-based feed (14-4-14) at 50 – 75 ppm Nitrogen.**Growth Regulators:** If needed, spray B-Nine (daminozide) at 1250 – 2500 ppm.**GROWING ON****Transplant Ready:** 8 – 10 weeks from a '288' plug tray.**Finish Bulking/Flower Initiation** – Optimum conditions during the vegetative period, beginning at transplant, needed for the root to reach the edge of the container; AND to make the plant receptive to flower initiation.**Media:** • pH: 5.8 – 6.0  
• EC: 1.2 – 1.5**Light:** Provide 3500 – 4500 foot candles (12 – 15 total moles or 35,000 – 45,000 lux) to hasten flower development. Long days may enhance growth.**Temperature:** 70°F (21°C) night temperature and 67°F (19°C) day temperature for 3 days after transplanting. Then 68° – 70°F (20° – 21°C) at night, 64° – 67° (18° – 19°C) in the day with a 5 – 10°F (2° – 3°C) negative DIF from 5:00 a.m. to 9:00 a.m.**Average Daily Temperature (ADT):** 67°F (19°C)**Moisture:** Alternate between moisture levels wet (4), and moist (3). Allow media to approach level (3) before re-saturating to level (4).**Humidity:** 40 – 70%**Dehumidify:** Provide horizontal airflow to aid in drying down the media through evapotranspiration, allowing better penetration of oxygen to the roots.**Fertilizers:** Under high light conditions, apply an ammonium-based feed (17-5-17) at 100 – 150 ppm Nitrogen. Under low light conditions, apply a calcium-based feed (14-4-14) at 100 – 150 ppm Nitrogen.**Growth Regulators:** If needed, apply either 1 – 2 applications of B-Nine (daminozide) at 2500 – 5000 ppm, A-Rest (ancymidol) at 3 – 5 ppm or Bonzi (paclobutrazol) at 2 – 4 ppm. Also responds to negative DIF treatments of 5 – 10°F (2° – 3°C) for height control.**Pre-Shipping Techniques to Enhance Post Harvest Quality**

When to treat: 1 – 2 weeks prior to finish or shipping.

**Growth Regulators:** B-Nine (daminozide) at 2500 – 3000 ppm.**Fertilizer:** Potassium nitrate drench at 150 ppm Nitrogen.**Common Diseases:** Pythium, Rhizoctonia, Powdery Mildew. Monitor moisture levels and utilize preventative fungicide drenches.**Common Pests:** Fungus gnats, Shore Flies, Aphids, Thrips. Use pesticides according to label directions.**SCHEDULING****Total crop time:** 12 – 14 weeks**'288' Plug crop time:** 6 – 7 weeks**Transplant to finish crop time:** Packs: 6 – 8 weeks  
4" crop: 7 – 9 weeks  
6" crop: 9 – 10 weeks  
Hanging Baskets: 8 – 11 weeks**PRODUCT USE**

Packs, pots, containers, mass plantings, beds, hanging baskets

**GARDEN SPECIFICATIONS****Light:** Full sun**USDA Hardiness Zone:** 11**AHS Heat Zone:** 12 – 1**Garden Height:** 8 – 10 inches (20 – 25 cm)**Garden Width:** 16 – 20 inches (40 – 50 cm)