Delphinium elatum

# Magic Fountains

## Superior Look in Cottage Gardens and Excellent as Cut Flower



- FastraX perennial: First year flowering without vernalization
- Excellent use as cut flower
- Long vase life
- Attractive inflorescences in intense colors

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| **Crop Time** | Spring: 18 - 22 weeks |
| **Height ⌀** | 41 " / 105 cm |
| **Exposure** | Sun - Partial shade |
| **Seed Form** | Raw |
| **Heat Zone** | 6-1 |
| **Hardiness Zone** | 3b-7b |
| **Product Use** | Bed, Landscape, Cut Flower |
| **Family, Origin** | Ranunculaceae, Europe & Asia |
| **Minimum Germ. Rate** | 70 % |

# TECHNICAL GUIDE

Delphinium elatum Magic Fountains

**Flowering**
**Flowering Type:** FastraX perennial – first year flowering plant without vernalization. Facultative long day plant, long days and high irradiance will promote flowering.

**Flowering Mechanism:** Flowering is affected by day length. A day length >13 hours will result in flower initiation. High light intensity and warmer temperatures shorten the total crop time.

**Plug Culture**
**Germination:** Optimum conditions for seedling development, beginning on the day of sowing until radicle emergence. Expect radicle emergence in 5-8 days.

**Cover:** Cover the seeds lightly with vermiculte.

**Sowing method:** 2-3 seeds per plug

**Media:** pH 5.8-6.2; EC 0.5-0.75

**Temperature:** 18-20 °C (64-68 °F) for the first two weeks. Once cotyledons have expanded, the temperature can be lowered to 16-18 °C (60-64 °F).

**Moisture:** Begin with a wet (4) media for germination. After 8 days, begin to alternate between moisture levels moist (3) and medium (2) until transplanting. Allow the media to dry back before re-saturating.

**Humidity:** 95-100% until radicle emergence, then reduce to 40-60%. Provide proper ventiliation and horizontal airflow to improve oxygen levels in the media.

**Light:** Light is not required for germination. After cotyledon expansion is complete, provide 2,000-2,500 ft. candles (20,000-25,000 lx). Later, the light level can be increased up to 4,000-5,000 ft. candles (40,000-50,000 lx). A day length of 14 hours during the plug stage will help aid in early root development leading to better uniformity. The plants should be hardened before transplanting to tolerate the full sun outside.

**Fertilizer:** Maintain an EC < 1.2. Begin fertilizing early to improve seedling quality. Initial feeding should start at 50-100 ppm and gradually work up to 100-175 ppm during plug production. Use a complete balanced fertilizer.

**Plug Bulking and Flower Initiation:** Maintain optimal conditions during the vegetative stage from cotyledon expansion to flower initiation. Vernalization is not required.

**Growth Regulators:** For cut flower usage, no growth regulators are required.

**Growing On**
**Media:** pH 5.8-6.5; EC 1.2-1.5

**Light:** Once transplanted into the field or greenhouse, additional light is no longer possible. In terms of timing, aim for a natural day length of 14 hours, as high light intensity and warmer temperatures shorten the total crop time.

**Temperature:** Grow at an ADT (average day temperature) of 16-18 °C (60-64 °F) or outdoors.

**Moisture:** Delphinium do not like to stay wet, so avoid overwatering. If irrigation is possible, allow the media to dry back before re-saturating.

**Fertilizer:** High fertilization levels are required. Fertilize the plants weekly with 100-150 ppm N using a complete balanced fertilizer. Prevent magnesium deficiency by applying magnesium sulphate (0,05 %) 1-2 times and in case of iron deficiency apply iron-chelate for 1-2 times. The roots are very sensitive to high salt levels in substrates.

**Growth Regulators:** For cut flower usage, no growth regulators are required.

**Fungicides:** Apply fungicides during long periods of low light, cool temperatures and high humidity.

**Common Diseases:** Botrytris, powdery mildew, fungal leaf spots, pythium.

**Pests:** Aphids, thrips, whitefly.

**Harvest:** Harvest the stems when the first 1 to 2 flowers are fully open or when 25% of the florets have opened. The stage for harvesting depends on the usage. Harvest for 2-3 weeks. After harvesting the first flush, new plants should be planted.

**Post Harvest:** Delphinium flowers are extremely sensitive to ethylene. If you are shipping flowers, include an ethylene-inhibiting product to avoid flower shattering and decay. Hydrate the stems immediately after cutting and store them in cooler at 1-3 °C (34-38 °F) until usage.

**Plug & Finished Crop Time**
**Plug Crop Time**

288 tray: 5-6 weeks
128 tray: 6-7 weeks

**Finished Crop Time**

Autumn plantings: Greenhouse: 13 weeks, 65-75 plants/$m^2$, Transplant from August to October, flowering in spring
Outdoor field: 16 weeks, 70-90 plants/$m^2$

Spring planting: Greenhouse: 11 weeks: 65-75 plants/$m^2$, Transplant from February to April flowering in late spring/early summer
Outdoor field: 13 weeks: 70-90 plants/$m^2$

**Expert Tip**
Benary's Pacific and Magic Fountains are rigorously tested as cut flower for excellent flower and stem quality with a long vase life. Both series deliver reliable yields of stems per variety. They can be grown in a greenhouse, tunnel or on the field for cut flower usage.

**Moisture Codes**

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|---|---|
| **Saturated (5)** | Water is easily observed when finger is pressed on cell. Water moves freely from the top of the plug to the bottom. |
| **Wet (4)** | Media looks black and is not glistening. The media feels wet to the touch but there is very little water movement. |
| **Moist (3)** | Water is not easily visible. When finger is pressed on the cell there is very little movement from top to bottom. |
| **Medium (2)** | Media is not black, but now looks medium brown. There is no water movement when pressed with finger. |
| **Dry (1)** | Media has changed color to a very light brown and is dry to the touch. |

All information in our technical guide is based on our own trials and would therefore be as guideline only. Detailed cultivation aspects vary depending on climate, location, time of year and environmental conditions. Benary expressly disclaims any responsibility for the content of such data/information and makes no representation or warranty for the cultivation of any products listed. It is recommended that growers conduct a trial of products under their own conditions.

# COLORS OF THE SERIES

Delphinium elatum Magic Fountains



**Cherry Blossom White Bee**
DE0103R



**Dark Blue White Bee**
DE0102R



**Lavender White Bee**
DE0104R



**Mid Blue White Bee**
DE0107R



**Pure White**
DE0109R



**Sky Blue White Bee**
DE0106R



**White Dark Bee**
DE0108R



**Lilac Pink White Bee**
DE0105R



**Dark Blue Dark Bee**
DE0101R



**Mix**
DE0199R