Tagetes patula

Milli Vanilli

Item no.: TP0902D/C

- Uniform & early flowering
- Large, semi-double anemone flowers
- Special, intense colors as eye-catcher
- Excellent heat tolerance

Crop Time	Spring: 7 - 10 weeks
Height ⌀	7 " / 18 cm
Width ⌀	7 " / 18 cm
Exposure	Sun - Partial shade
Seed Form	Detailed Seed, BeGreen Coating
Product Use	Packs, Pots, Mixed Containers, Landscape
Family, Origin	Asteraceae, Mexico + Central America
Minimum Germ. Rate	85%

TECHNICAL GUIDE

Tagetes patula Milli Vanilli

Flowering
Flowering Type: Day neutral plant, will flower regardless of the day length.

Flowering Mechanism: High light intensity and warmer temperatures will 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 2-3 days.

Cover: Seeds may be covered by a thin layer of medium vermiculite to maintain moisture and humidity levels. Light is not necessary for germination.

Sowing method: 1 seed per plug.

Media: pH 6.2-6.5; Keep the pH level above 6.0 to prevent iron and manganese toxicity. EC 0.5-0.75 Begin with an EC < 0.75.

Temperature: 22-24 °C (72-76 °F). On day 7, once cotyledons have expanded the temperature can be lowered to 20-21 °C (68-70 °F).

Moisture: Begin with a saturated (5) media moisture level for the first 1-2 days and then reduce to wet (4) for the next 3-4 days. Thereafter, on day 6, once germination is complete with cotyledon expansion, reduce the media moisture to medium (2). Alternate between moisture levels wet (4) and medium (2). Allow the media to reach a moisture level medium (2) before re-saturating to wet (4).

Humidity: 95-100 % until day 3; then reduce to 40-60 %. By dehumidifying it will help prevent seedling stretch. Provide proper ventilation and horizontal airflow to improve oxygen levels in the media.

Light: Light is not necessary for germination. Providing a light source will improve speed and uniformity of germination. If utilizing a germination chamber provide 10-100 ft. candles (100-1,000 lx). Supplying light in the germination chamber will greatly improve seedling performance. Keep light levels low, less than 250 ft. candles (25,000 lx) to prevent early flower initiation.

Fertilizer: Maintain an EC of less than 0.75. Begin fertilizing early on day 7 feeding at 50-60 ppm N, using a calcium based fertilizer (14-2-14 or 13-2-13).

Plug Bulking and Flower Initiation: Optimum conditions during the vegetative stage from cotyledon expansion to flower initiation. This stage is when the seedlings root to the edge of the plug.

Media: pH 6.2-6.5 Continue to monitor the pH level. Keep the pH level above 6.0 to prevent iron and manganese toxicity. Toxicity will be exhibited by the lower leaves having necrotic spots with a mottled discoloration. EC 0.75-1.0.

Light: Provide 6-8 mol/m^2/day (2,000-2,500 ft. candles or 20,000–25,000 lx). Light levels that are too high can cause premature flower initiation.

Temperature: 18-20 °C (64-68 °F) until plants form two sets of true leaves. If stretching occurs, lower the temperature further to 17-18 °C (62-64 °F).

Moisture: Alternate between moisture levels wet (4) and medium (2). Allow the media moisture level to reach a medium (2) before re-saturating to wet (4). Do not allow seedlings to dry back too much since this can cause premature flowering.

Fertilizer: Fertilizer levels can be increased to 100-150 ppm N. Continue using a calcium-based fertilizer (14-2-14: 15-5-15; or even 17-5-17) under higher light conditions.

Growth Regulators: No growth regulators should be necessary. If needed B-Nine (daminozide) sprays at 2,500 ppm can be made.

Fungicides: Preventative drenches are recommended for Rhizoctonia and Pythium.

Growing On
Transplant Ready: Do not allow plugs to become root bound before transplanting.

Media: pH 6.2-6.5 Continue to make sure that the pH does not drop below 6.0 since iron and manganese toxicity can occur. Toxicity will be exhibited on the lower leaves having necrotic spots with a mottled discoloration. EC 1.0-1.25.

Light: Provide 8-10 mol/m^2/day (2,500-3,000 ft. candles or 25,000-30,000 lx). For a better branched plant give a short day treatment after transplanting (9-10 hr.) for two to three weeks.

Temperature: 17-18 °C (62-64 °F) until plants are well established in the final container. Thereafter, temperatures may be lowered further to 15-17 °C (59-62 °F) nights and 18-20 °C (64-68 °F) days. Avoid lower temperatures since temperatures between 18-20 °C (64-68 °F) promote flower initiation. An ADT (average daily temperature) of 19 °C (66 °F) will give the fastest finished crop.

Moisture: Continue to alternate between moisture levels wet (4) and medium (2). Allow the media moisture to approach medium (2) before re-saturating to wet (4).

Humidity: 40-60 % humidity is ideal. Providing good ventilation and horizontal airflow will help lower the humidity and dry back the media, providing oxygen to the roots.

Fertilizer: Marigolds require a moderate feed program. Fertilize weekly with a complete calcium based fertilizer at 150-200 ppm N. Recommended fertilizers are (14-4-14; 15-5-15; and 17-5-17) under high light conditions. Keep ammonium levels low since too much ammonium will result in large leaves and can also damage the roots.

Growth Regulators: No growth regulators should be necessary. Responsive to B-Nine (daminozide) sprays at 2,500 ppm. Bonzi or Piccolo (paclobutrazol) sprays can also be used.

Fungicide: Apply fungicides during long periods of low light and high humidity.

Common Diseases: Botrytis, pythium and rhizoctonia.

Pests: Primarily aphids and thrips.

Post Harvest: Fertilize with Potassium Nitrate at 100 ppm 1-2 weeks prior to shipping.

Timing & Positioning Charts

Moisture Codes

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.

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