

**Cultural Information for:** Marigold 'Proud Mari' Annual

**Common Name:** Marigold

**Botanical Name:** Tagetes erecta

**Seed Count:** 7,000-11,500/oz. 250-400/gr.

**Optimum Germination Temperature:** 72-75°F / 22-24°C

**Optimum Growing Temperature:** 65-70°F / 18-21°C

**Optimum pH:** 6.0 – 6.5

**EC – Plug:** 0.4 – 0.8 mmhos/cm (1:2) / 0.9 – 2.0 (SME) / 1.1 - 2.6 (Pour Thru)

**EC – Finishing:** 0.9 – 1.3 mmhos/cm (1:2) / 2.1 – 3.5 (SME) / 2.7 - 4.6 (Pour Thru)

## Plug Culture - 4 weeks (288 / 12 x 24 tray)

**Stage 1** (days 1-5) Select a well-drained media with good drainage.

African Marigold is sensitive to iron and manganese toxicity at a pH below 6.0, characterized by lower yellow leaves with edge browning/burning. Cover the seed with medium vermiculite and provide 10-100-foot candles/100-1,000 lux to improve germination. Optimum soil temperature is 72-75°F/22-24°C.

**Stage 2** (days 6-10) Marigolds germinate quickly. After emergence place the plug trays in a well-ventilated greenhouse with up to 2,500 f.c./27,000 lux. Reduce moisture and maintain a day temperature of 70°F/21°C and a night temperature of 65°F/18°C. A light application of fertilizer at 75-100 ppm of nitrogen will greatly benefit in helping to establish strong and healthy seedlings.

**NOTE:** Marigold Proud Mari is a facultative short-day plant. Provide long day conditions (> 14 hours) in the plug stage to prevent pre-mature flower bud initiation.

**Stage 3** (days 11-21) Fertilize at 100-150 ppm N at least once a week. Watering just before wilt is recommended to avoid lush growth; wet/dry cycles are beneficial. One should water thoroughly to prevent excess salt buildup. Watering early in the morning allows the foliage to dry thoroughly and prevents potential disease problems. If necessary, one can apply B-9 at 1,500 ppm's to check growth 15-17 days after sowing.

**Stage 4** (days 21-28) African Marigolds develop rapidly and are often ready to transplant after three weeks, (depending upon the plug cell size used). One can drop the air temperature to 62°F/17°C to hold plug trays for a few days. Avoid temperatures below 60°F/16°C as this will invite disease problems. Do not delay transplanting. Do not delay transplanting because root bound plugs perform poorly.

## Finished Production: 6-8 weeks

**Container Size:** Proud Mari is a dwarf variety with strong basal branching and can be grown and sold in high-density cell packs (606) and 4-6 inch pots.

**Media:** Peat-lite mixes work well at a soil pH of 6.0 - 6.5.

**Temperature:** Optimum day temperature is 65-70°F/18-21°C with nights between 58-60°F/15-16°C. High temperatures (>80°F/27°C) promotes a reduction in flower size.

**Fertilizer:** Weekly applications of 150-200 ppm N using a well-balanced calcium nitrate-based fertilizer produce plants of high quality.

Alternating with 20-5-20 or as needed works well to balance the pH. As mentioned earlier, African Marigold is an iron efficient plant and requires a pH above 6.0 to guard against iron and manganese toxicity.

**Growth Regulation:** B-Nine® (daminozide) is effective at 2,500-5,000 ppm / 0.25-0.5%. Do not apply after flower buds are greater than 1 cm. in diameter to avoid reducing the flower size.

**Flowering:** Marigold Proud Mari is sensitive to photoperiod, although less so than other African Marigolds. For earlier flowering direct sow in a 50-cell tray and apply short days (9 hours of light) for two weeks starting on day 21.

**Disease:** Alternaria, botrytis, leaf spot, pythium, pythium, phytophthora

**Pests:** Aphids, larvae, leaf miners, spider mites, thrips, whiteflies

**Culture Watch Point:** Excess nitrogen combined with calcium deficiency promotes deformed flowers.

## Scheduling:

Container	Weeks from Sow	Comment
Cell Pack	8 weeks	Without open flowers
4 inch/10 cm.	10-12 weeks	1 plant per pot
6 inch/15 cm.	10-12 weeks	3 plants per pot

**Garden Height:** Plants ultimately will reach 10-12 inches/25-30 cm. tall by 10-12 inches/25-30 cm. wide.

*“All information given is intended for general guidance only and may have to be adjusted to meet individual needs. Cultural details are based on North American conditions and Sakata cannot be held responsible for any crop damage related to the information given herein. Application of recommended growth regulators and chemicals are subject to local and state regulations. Always follow manufacturer's label instructions. Testing a few plants prior to treating the entire crop is best.”*