

<b>Cultural Information for:</b>	Aster Bonita	Annual
<b>Common Name:</b>	Aster	
<b>Botanical Name:</b>	Callistephus chinensis	
<b>Seed Count:</b>	13,000-17,000/ounce	450-600/gram
<b>Optimum Germination Temperature:</b>	70°F / 21°C	
<b>Optimum Growing Temperature:</b>	60-70°F / 15-21°C	

### Plug Production – 4 weeks (288 / 12 x 24 tray)

**Stage 1** (days 1-7) Select a well-drained sterile media with a pH between 5.8-6.2. Prior to sowing, water the plug tray to the point of drip. Sow the seed and cover with medium vermiculite. Do not water the seeds after sowing or the day following sowing. Maintain even moisture and a soil temperature of 70°F/21°C. Water the seedlings as needed allowing the media to dry slightly in between watering. An overly wet soil will decrease germination.

**Stage 2** (days 8-15) After seedlings begin to emerge, move the plug trays to a bright greenhouse and reduce the air humidity and temperature to between 60-70°F/16-21°C. Lightly feed with 100 ppm N from a well balanced fertilizer. *Asters are sensitive to Boron deficiency so maintain optimum pH levels (5.8 - 6.2) and consider applying 0.25 ppm Boron with each irrigation/fertilization.*

**Stage 3** (days 16-24) Provide plenty of light and air circulation and fertilize the plugs as needed to maintain healthy tissue with 100-150 ppm N from a well-balanced fertilizer. The use of Calcium Nitrate based fertilizers is recommended to help build strong stems and roots.

**Stage 4** (days 25-28) Plugs are ready for transplanting into flower beds. Aster Bonita is sensitive to day length and stress conditions. In order to maximize stem length for cut flowers DO NOT DELAY TRANSPLANTING!

### Cut flower Production

**Transplanting:** Space plants 4 x 5 inches/10 x 12.5 cm apart in beds with a rich soil full of organic matter where Asters were not previously grown the year before. Bonita is tolerant of stem rot (fusarium) and can be grown in the same field every other year. **NEVER GROW** in the same field more than two years in a row.

**Growing:** Maintain good air circulation and temperatures between 60 - 70°F/15-21°C. Fertilize as needed to maintain a soil EC of 0.7 to 1.0 mmhos (2:1 dilution). Soil EC under 0.5 mmhos will cause lower leaves to yellow. Soil EC above 1.0 will result in large foliage, delayed flowering and shorter vase life. Asters have sturdy stems, but additional support is generally needed.

**Flowering:** Bud formation begins under long days (>14 hours) with final development under short day conditions. In general, Aster Bonita flowers in 14-15 weeks (100-105 days) after sowing.

### Natural Season Flowering without photoperiod manipulation

Area	Sow	Harvest
Warm Area	March	July (17 weeks)
Cool Area	April	July/August (15 weeks)

\*For Winter flowering, apply a minimum temperature of 60°F/15°C and with 4 hours of supplemental lighting for 3 weeks from 10 p.m. to 2 a.m. at the 5<sup>th</sup> true leaf stage and then apply short day conditions (<12 hours). If plants are too short, maintain lighting for longer than 3 weeks to add height and delay flowering. ***Stems should be 2/3rd final height at the start of short days.***

\*For late Summer to Autumn flowering provide short days, (less than 12 hours of light), in the plug stage when sowing May to July to avoid premature flower bud initiation. To ensure proper development and stem length provide long days at the 5<sup>th</sup> true leaf stage by lighting from 22:00 – 02:00 followed by short days when the crop is 2/3<sup>rd</sup>'s the final desired height.

**Post Harvest Care:** Cut stems when 2-3 flowers are 1/4 open. Strip off bottom leaves and place stems in tepid water in a cool area to allow for rehydration.

*“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.”*