

Cultural Information for:	Flowering Kale Nagoya	Annual
Common Name:	Flowering Kale	
Botanical Name:	Brassica oleracea	
Seed Count:	6,500 /ounce	250 / gram
Optimum Germination Temperature:	70°F / 21°C	
Optimum Growing Temperature:	50-68°F / 10-20°C	

Plug Production – 28 days (288 / 12 x 24 tray)

Stage One (days 1-5) Single sow seed into a 288 plug tray filled with a sterile and well drained media. Optimum pH is 5.5-6.2 with an EC less than 0.5 mmhos (2:1 dilution) and a temperature of 70°F/21°C. Lightly cover with coarse vermiculite as seed requires light to germinate.

Stage Two (days 6-14) As soon as seedlings emerge move the trays to a cool and bright location with good air movement. Optimum temperature is 55-60°F/13-15°C. In summer under high temperature conditions placing trays outdoors under shade cloth works well. Fertilize with 50 ppm N using a well balanced calcium m nitrate-based fertilizer to strengthen the seedlings.

Stage Three (days 15-22) Maintain optimum temperatures, if possible, and fertilize with 100 ppm N as needed to maintain an EC between 0.7-1.0 mmhos (2:1 dilution). To reduce stem elongation apply B-Nine® (daminozide) at 1,500-3,000 ppm / 0.15-0.3% when first true leaves are formed. Bonzi® (paclobutrazol) at 2-4 ppm is also effective; especially under high temperatures. **Do not apply growth regulator if the crop is for food consumption.**

Stage Four (days 23-28) The seedlings are approaching transplant stage and should have 2 pairs of true leaves. Do not delay transplanting to avoid stretching.

Transplanting

Media: Flowering Kale does best in a soil-based mix (20-30% field soil), but soil less media can also be use with proper management. Optimum pH is 5.5-6.2 with a low nutrient charge.

Container: Flowering Kale Nagoya is targeted for production in 4-6 inch/10-15 cm. pots.

Spacing: To maximize plant size, and reduce stretching, allow sufficient space between the plants.

Fertilizer: Fertilize with 150 ppm N. using a well balanced calcium nitrate-based fertilizer. Optimum EC is 1.0-1.5 mmhos, (2:1 dilution). Excess fertilizer will delay leaf coloring and too little fertilizer will cause the outer leaves to yellow and drop off.

Light: Flowering Kale grows well outdoors under full sun up to 10,000 foot candles/107,000 lux.

Growth regulator: Under warm temperatures growth regulation is necessary to keep the plants compact. In cooler weather applying B-Nine (daminozide) at 2,500-5,000 ppm/0.25-0.5% works well. In warmer weather weekly sprays of Bonzi (paclobutrazol) at 4-6 ppm provides good height control.

Coloring: The plants need to be of sufficient size before color initiation. Intense coloring begins when the night temperature drops below 50-55°F/10-13°C for 2-3 weeks and is most intense between 35-45°F/2-7°C.

Timing: For 4 inch / 10 cm. pots plan on 8-9 weeks from sowing to the start of color. For 6 inch / 15 cm. pots plan on 9-10 weeks from sowing to the start of color.

Insects: Aphids, caterpillars, cut worms

Disease: Botrytis, downy mildew

“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.”