Flowering Kale Nagoya

Cultural Information for:	Flowering Kale Nagoya	Annual
Common Name:	Flowering Kale	
Botanical Name:	Brassica oleracea	
Seed Count:	8,500 /ounce	300 / 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 a low nutrient charge (EC < 0.5 mmhos 1:2 slurry) 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 (1:2 slurry). 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, (1:2 slurry). 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 and disease: Caterpillars, cut worms and aphids are the major pests with damping off, botrytis and downy mildew being the major diseases.

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