



Crop	Stock
Series	Early Iron, Iron
Botanical name	<i>Matthiola incana</i>
Plant type	Annual
Seed type	Raw
Seed count	500 seeds / gr
Germination	18-20°C light favored
Growing	10-16°C
Optimum pH	5.8-6.2

Plug Culture: 4 weeks (288 cell tray)

Stage 1 (days 1-10) Sow seed into a plug tray filled with a well-drained media at a pH of 5.8-6.2 and lightly cover with vermiculite. Maintain even moisture and a soil temperature of 18-20°C. *Selection for double seedlings may be done between days 8 and 13.

Stage 2 (days 11-17) After germination is complete, move seedling trays to a well-lighted area with good ventilation. Fertilize lightly with 100 ppm nitrogen and grow at a day temperature of 16°C and a night temperature of 13°C.

Stage 3 (days 18-25) Fertilize as needed to maintain strong growth and provide high light and good air circulation.

Stage 4 (days 26-30) When the seedlings have 4-5 true leaves, transplant to the bed. Avoid root bound seedlings and delayed transplanting.

* Stock Early Iron, Iron produces 55% double flowers without selection. To increase the percentage of double flowers, use the following procedure. 1. Sow 3-4 seeds a plug cell with Stock Iron seed. 2. 8 days after sowing remove the last to germinate seedling

with a tweezers. If only two seedlings germinate wait until the next step. 3. Around day 9-10 allow the soil to dry slightly. This will make the final selection easier. Make the final selection around day 14 before the emergence of the first true leaves.

- The double-flowered seedlings are more vigorous and grow more rapidly.
- Double-flowered seedlings have larger and longer cotyledons with a more irregular/elliptical shape and a lighter green color.
- Single-flowered seedlings will be shorter, with smaller cotyledons with a more round/oval shape and darker green color.

*Please see the below variety as reference on double-flowered seedling selection:

<https://www.youtube.com/watch?v=vnYqqQbTDt0>

Transplanting to finish: 9-14 weeks

Bed Preparation: Select a sunny location with good drainage and a fertile soil.

Plant Density: Plant 12.5cm apart (if the seedlings are selected for double flowers) and water regularly. Never allow the media to dry out the first week. Avoid strong direct sunlight until the plants are established in the bed.

Moisture: Provide adequate water until flower buds become visible, and then reduce water gradually until harvesting. Due to its strong stem, Stock Early Iron, Iron series tolerates higher moisture conditions than other varieties. Typically, growers reduce water later in the crop cycle and keep the greenhouse drier to induce flowering and less stem stretch. However, for Stock Early Iron, Iron series, so to achieve greater stem length keep the greenhouse slightly warmer with higher moisture levels.

Temperature: To promote strong vegetative growth and greater stem length following transplant, supply abundant moisture and target a day temperature of

18-21°C with a night temperature of 15-18°C.

Flower Bud Initiation: Stock Early Iron, Iron is a mid-season variety that becomes receptive to flower bud initiation when the plants have more than 10 true leaves. Optimum temperatures for flower bud initiation are around 20°C for Early Iron series, around 18°C for Iron series for certain days, although it is different depending on the varieties and day length (So cannot guarantee, please test at your circumstance. Applying long days (>14 hours) is to enhance flower bud initiation. However, long days may impact stem length resulting in shorter stems.

Note: If the plants are too short when the plants approach the tenth true leaf stage, keep the day temperature above 18°C and the day length less than 12 hours to delay initiation. The highest day temperature along with the photoperiod are the mechanisms that affect flower bud initiation.

Netting: Stock Early Iron, Iron requires support netting when the plants are about 30 cm tall. Add additional netting as the plants continue growing.

Fertilizer: Maintain an EC level around 1.0 mS/cm* in clay soil and 1.25 mS/cm* in sandy soil and fertilize as needed to maintain healthy plants. Stock has a higher need for potassium so target the N:K ratio at 1:1.5. Avoid high rates of ammonium as it promotes softer growth and thinner stems. Water sufficiently during production and then keep drier from visible bud to harvest. *1-2 slurry

Pests: aphids and diamondback moths

Disease: botrytis and sclerotium.

Harvesting: Cut stems with 7-15 open flowers on the spike.

Scheduling: Stock Iron flowers in 13-25 weeks from sowing based on when the plants initiate flowers. Following initiation, warmer temperatures and longer days accelerate development whereas cooler temperatures and shorter days lengthen crop time.

All information given is intended for general guidance only and may have to be adjusted to meet individual needs. Cultural details are based on Asian conditions such as in Japan and Sakata cannot be held

responsible for any crop damage related to the information given herein. Always follow manufacturer's label instructions. Testing a few plants prior to treating the entire crop is best.