

# Matthiola (Stock) Hot Cakes

The first Autumn flowering, fully selectable Matthiola on the market. Perfect to sell alongside Pansy.

### Plug production: plug tray size

Can be best produced in a 360 (350) or 240 (230) plug tray with one seed per cell.

### Sowing

Use a well-drained, disease-free media with a pH range of 5.5 to 6.0, and EC less than 0.75mmhos/cm (2:1 extraction)

Cover the seed lightly with coarse grade vermiculite after sowing.

It takes approximately 3 - 5 days to germinate.

### Temperature

**Germination:** 17 to 20°C

**Radicle emergence to cotyledon expansion:** 15 to 21°C days; 13 to 15°C nights.

**Holding the plugs until shipping/transplanting:** 15 to 21°C days; 10 to 13°C nights.

**Note:** Also refer to the 'guidelines for selecting seedlings' section for recommended temperatures during plug production.

### Light

Light is not required, but is beneficial during germination.

### Humidity

Maintain 95 to 97% relative humidity until cotyledons emerge. Avoid excess humidity later on in the plug production, as this will create conditions favourable for disease incidence.

### Fertilisation

Start fertilising twice a week with 50 ppm N at cotyledon expansion. Increase the nitrogen concentration to 100 ppm after a week, and continue this programme until finish/transplant using a balanced plug fertiliser. Maintain an EC of 0.5 to 0.75 mmhos/cm until cotyledon expansion, and can increase it up to 1.0 mmhos/cm as the seedlings mature. pH can be maintained at 5.5 to 6.0 throughout the plug production.

### Plant Growth Regulators

Generally not required.

### Guidelines for selecting seedlings of double flowering plants during plug production

Seedlings of double flowering plants can be selected during plug production based on their cotyledon leaf color (lighter green/yellowish green) when grown under appropriate cool temperatures, compared to those of singles which have dark green cotyledons.

**Option 1:** Once the cotyledons have fully expanded (day 11 - 12 from sowing) the seedlings can be moved into a cold chamber/storage set at 4 - 7°C.

Make sure to moisten the trays well before they go into the cool chambers.

Lights are not required in chamber during this period. Monitor the plug trays for any colour differentiation beginning at day 2 in the chamber and can bring them out accordingly. Hold them in the chamber for 3 - 5 days if necessary, after which they can be grown at cool temperatures 10 - 15°C in a greenhouse.

It is possible to differentiate the seedlings once they come out of the cold chamber, sometimes the differentiation becomes more clear after 1 - 3 days back in the greenhouse.

Avoid direct sun/high light levels during sorting as this can make the cotyledon colour differences less obvious. Typically early mornings are best for this procedure.

In European trials where the sorting is automated, the camera eye of the machine was also able to see/sort the cotyledon color differences for the singles and doubles.

**Option 2:** If cold chamber space/facility is not available or when outside/greenhouse conditions are cool enough, then the seedling selection can also be done by growing the plugs at cool temperatures 10 - 15°C under greenhouse conditions. (The timing and ease of the selection process will depend on the cool temperatures provided).

Ball Colegrave cultural information is issued as a guide to growers, based on our own trials experience. It is not intended as a blueprint for growing. Any chemicals referred to should be used only in accordance with the manufacturer's instructions.

## *Culture Information*

### **Growing On to Finish**

#### **Container Size**

Can be produced in 9 – 10.5cm or packs.

#### **Media**

Use a well-drained, disease-free media with a pH of 5.8 to 6.2, and a medium initial nutrient charge.

#### **Temperature**

Hot Cakes Matthiola can best be produced under cooler temperatures for uniformity/quality of flowering and plant habit. The optimal recommended production temperatures are:

**Night:** 12 to 14°C

**Day:** 15 to 18°C

(Note – It can also be produced under less optimal conditions, but the quality may not be the best).

#### **Fertiliser**

After transplant, fertilise the crop with a well-balanced fertiliser supplying 150 to 200ppm N.

Maintain the media EC at 1.50 to 2.00mmhos/cm and pH at 5.8 to 6.2. Excessive fertiliser levels will result in large and lush leaves, whereas fertiliser stress will cause very small leaves, and yellow lower leaves.

#### **Plant Growth Regulators**

PGR's are generally not required.

#### **Crop Scheduling**

**Sow to transplant (Ball 230 size tray):** 4 weeks

**Transplant to flower:** 4 to 7 weeks

**Total crop time (sow to flower):** 8 to 11 weeks

(Crop time is temperature dependent and can finish as early as 8 weeks from sowing if grown during periods of high temperatures/Summer).

**Note:** Growers should use the information presented here as a starting point. Crop times will vary depending on the climate, location, time of year and greenhouse environmental conditions.

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