

Interspecific Dianthus Jolt

(*Dianthus barbatus interspecific*)

Germination

Approximate pellet count: 12,190-13,890 pellets/oz.
(430-490 pellets/g)

Media

Use a well-drained, disease-free soilless media with a pH of 5.8 to 6.2 and an EC of 0.5 to 0.75 mmhos/cm (2:1 extraction).

Sowing

Plug Tray Size:

Can be produced in a 288 or similar size plug tray. Cover the seed with a medium layer of coarse grade vermiculite at sowing.

Stage 1 – Germination takes approximately 3-5 days

Germination temperature: 64 to 68°F (18 to 20°C)

Light: Light is not required, but can be beneficial

Media moisture: Keep the media medium-wet (level 4) during germination.

Relative humidity: Maintain 95 to 97% relative humidity until cotyledons emerge.

Plug Production

Stage 2

Temperature: 65 to 70°F (18 to 21°C)

Light: Can be up to 2,500 f.c. (26,900 Lux). DLI 5 to 8 moles.m-2.d-1

Media moisture: Reduce the media moisture slightly (level 4 to 3) to allow the roots to penetrate into the media.

Fertilizer: Apply fertilizer at rate 1 (less than 100 ppm N/less than 0.7 mS/cm EC) with a nitrate-form fertilizer with low phosphorous. Maintain a media pH of 5.8 to 6.2 and EC at 0.5 to 0.7 mS/cm (1:2 extraction).

Stage 3

Temperature: 60 to 65°F (15 to 18°C)

Light: Can be up to 2,500 f.c. (26,900 Lux). DLI 8-10 moles.m-2.d-1

Media moisture: Moisture level can be reduced to medium to medium dry (level 3 to 2). Do not allow the seedlings to wilt.

Fertilizer: Increase the fertilizer rate to 2 (100 to 175 ppm N/ 0.7 to 1.2 mS/cm EC). Maintain a media pH of 5.8 to 6.2 and EC at 0.7 to 1.0 mS/cm (1:2 extraction).

Stage 4

Temperature: 55 to 60°F (13 to 15°C)

Light: Can be up to 5,000 f.c. (54,000 Lux). DLI >10 moles.m-2.d-1

Media moisture: Maintain wet/dry cycle. Do not allow the seedlings to wilt.

Fertilizer: Keep the fertilizer rate to 2 (100 to 175 ppm N/ 0.7 to 1.2 mS/cm EC). Maintain a media pH of 5.8 to 6.2 and EC at 0.7 to 1.0 mS/cm (1:2 extraction).

Growth Regulators

One to two applications of paclobutrazol (Bonzi, Piccolo) at 4 to 6 ppm (1.0 to 1.5 ml/l, 0.4% formulation) is effective for Jolt plug height control. When grown under low light conditions (DLI <5 moles.m-2.d-1) a paclobutrazol (Bonzi, Piccolo) 5 ppm (1.25 ml/l, 0.4% formulation) spray at radicle emergence stage will help in controlling hypocotyl stretch.

Northern Europe: Start with 2 ppm (0.5 ml/l, 0.4% formulation) paclobutrazol (Bonzi, Piccolo) spray at 2 weeks after sowing, and then if necessary, build up concentration to 4 ppm and 6 ppm at 3 and 4 weeks after sowing, respectively.

Growing On to Finish

Media

Use a well-drained, disease-free soilless media with a pH of 5.8 to 6.2 and an EC of 0.75 mmhos/cm.

Temperature

Provide 65 to 75°F (18 to 24°C) day temperatures and 60°F (15°C) night temperatures for the first 2 weeks of greenhouse production to establish the plants. Finish

at 60 to 70°F (15 to 21°C) days, and nights in the low 50s (11 to 12°C). Lower temperatures can be tolerated in the mature plant stage, but it will lengthen the crop time. Jolt will flower earlier under warmer temperatures.

Light

Jolt will benefit from being grown under high light levels. Grow them under light levels as high as possible while maintaining the optimal production temperatures. Growing under low light conditions (<5 moles.m-2.d-1) could significantly delay flowering.

Irrigation

Maintain optimal media moisture, i.e. not too wet or too dry.

Fertilizer

Starting a week after transplant, apply fertilizer at rate 3 (175 to 225 ppm N/1.2 to 1.5 mS/cm) once a week from a nitrate-form fertilizer with low phosphorus.

Photoperiod

Interspecific Dianthus Jolt is a facultative/ quantitative long day plant and can flower all year around, but it will take slightly longer to flower under short days than long days.

Growth Regulators

Jolt Interspecific Dianthus has a naturally compact plant habit with excellent basal branching making it perfectly suitable for premium container programs. When producing Jolt in premium containers such as quarts & 1-gallons, foliar sprays of paclobutrazol (Bonzi, Piccolo) at 20 ppm (5.0 ml/l, 0.4% formulation) applied at 2 to 3 weeks after transplant will be effective in controlling height. If necessary, repeat the treatment 2 to 3 weeks later.

Northwestern Europe: apply paclobutrazol (Bonzi) as foliar spray at 2 to 3 weeks after transplant. Start with 8 ppm (2.0 ml/l 0.4% active ingredient). Repeat weekly with 4 ppm higher dose built-up each week as needed up to 16 to 20 ppm (4.0 to 5.0 ml/l 0.4% active ingredient) until visible bud stage.

Pinching

Pinching is not needed.

Container Size

Quart: 1 plug per cell

1-gallon (18-cm) pot: 1 to 3 plugs per pot

Crop Scheduling

Sow to transplant (288/264-cell plug tray): 5 to 6 weeks

Transplant to finish:

Late Spring through Autumn finishing: 12 to 13 weeks

Winter to Early Spring finishing: 14 to 18 weeks

Note: Jolt flowering is influenced by light intensity, temperature, and daylength. However, light intensity and temperature have greater impact on Jolt flowering, especially during winter and early spring season.

A small percentage (less than 1%) of early off-types may be observed in Jolt Pink at 4 to 5 weeks after sowing. These off-type seedlings can be roughed out as early as plug production stage.

Common Problems

Insects: Thrips, mites.

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. Chemical and PGR recommendations are only guidelines. It is the responsibility of the applicator to read and follow all the current label directions for the specific chemical being used in accordance with all regulations.

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