

## Jade Princess F<sub>1</sub> Ornamental Millet

*Pennisetum glaucum*

**Approximate seed count:** 3,400 to 4,500 S./oz.  
(120 to 160 S./g)

### Plug Production

**Note:** *Plugs allowed to become rootbound or stressed by drought or nutrient deficiency will not perform well after transplant.*

### Media

Use a well-drained, disease-free media with a pH range of 5.5 to 6.3, and EC less than 0.75mS/cm (2:1 extraction).

### Sowing

Recommended tray size is 128-cell or larger. Larger cells result in shorter overall crop times. Multiple sowing 2 to 3 seeds per plug is recommended.

### Direct Sowing

Total crop time can be reduced by 2 weeks by direct sowing into the final container. Sowing 3 or more seeds in the center of the container is recommended.

Using either method above, cover the seed with approximately 0.5 in. (1 cm) of media to prevent seedlings from tipping over.

**Stage 1** – Germination takes approximately 2 to 3 days.

**Germination temperature:** 72 to 78°F (22 to 25°C). Temperatures below 68°F (20°C) will significantly delay germination.

**Light:** Light is not required for germination.

**Media Moisture:** Keep the media medium wet to wet (level 4-5) during germination.

**Relative Humidity:** As long as the soil is kept evenly moist, high air humidity is not required for germination. Therefore, seed can be germinated directly on the bench.

### Stage 2

**Temperature:** 72°F (22°C) days; 68°F (20°C) nights.

**Light:** Can be up to 2,500 f.c. (26,900 Lux) during Stages 2 and 3.

**Media Moisture:** Keep the media medium (level 3) to medium wet (level 4) during Stage 2.

**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:** 72°F (22°C) days; 68°F (20°C) nights.

**Light:** Can be up to 5,000 f.c. (54,000 Lux) while maintaining temperatures.

**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:** 72°F (22°C) days; 68°F (20°C) nights. Jade Princess prefers warm temperatures.

**Light:** Can be up to 5,000 f.c. (54,000 Lux) while maintaining temperatures.

**Media Moisture:** Moisture level can be reduced to medium to medium dry (level 3 to 2). 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).

### Plant Growth Regulators

Not required at plug stage. **If needed**, foliar sprays of B-Nine/Alar (daminozide) at 600 to 1,200 ppm (0.7 to 1.4g/l 85% formulation or 0.9 to 1.8g/l 64% formulation) work well in toning the plugs.

## Growing On to Finish

### Media

Use a well-drained, disease-free, soilless medium with a pH of 5.5 to 6.5 and a medium initial nutrient charge.

### Temperature

**Nights:** 61 to 66°F (16 to 19°C)

**Days:** 68 to 85°F (20 to 30°C)

This is a warm-season crop. Higher temperatures result in faster growth and taller plants. Average daily temperature below 64°F (18°C) will significantly delay crop time.

Do not grow Jade Princess with temperatures below 60°F (16°C), especially at times with low light intensity. It performs better at the upper end of the temperature range.

Low temperatures can also cause Jade Princess foliage color to become more chlorotic or even cause necrosis and flower spike bending.

### Light

Keep light levels as high as possible. Higher light results in stronger, thicker stems and better basal branching.

### Irrigation

Maintain even moisture at level 2 to 3. Do not allow the substrate to dry up and the plants to wilt.

### Fertilizer

Apply fertilizer at rate 3 (175 to 225 ppm N/1.2 to 1.5 mS/cm EC) once a week from a nitrate-form fertilizer with low phosphorus. A balanced ammonium and nitrate-form fertilizer may be applied as needed. Maintain the media EC at 1.5 to 2.0 mS/cm and pH at 5.8 to 6.2. For constant fertilizer program, can apply fertilizer at rate 2 (100 to 175 ppm N/0.7 to 1.2 mS/cm) while maintaining the above recommended EC and pH ranges.

### Growth Regulators – Plants Grown For Landscape Use

Jade Princess is naturally shorter and branches better than other ornamental millet varieties. It can do without any or with less PGRs. For example, no PGR to 1 application of Bonzi 3 to 5 ppm (0.75 to 1.25 ml/l) drench at about 1 week after transplanting or 4 weeks after sowing for directly sown.

**Northwestern European conditions:** Use the lower concentrations listed above.

This treatment results in a final height of 24 to 30 in. (60 to 75 cm) for Jade Princess.

**Note:** Based on the PanAmerican Seed research trial at Elburn, Illinois, transplanted plugs require less PGRs and make bushier plants after PGR applications, but crop timing is 1 to 2 weeks longer than direct-sown plants.

Millet plant response to PGRs is variable with container size and different environmental conditions. We recommend that you run an in-house trial to determine the best rate or method for your conditions.

### Pinching

Do not pinch.

### Note

Do not allow the plants to be stunted from water stress or inadequate fertilizer, or allow the plants to become rootbound. Plants which are stunted in a young stage may produce only a single, short stem and not reach their full potential.

### Crop Scheduling

**Sow to transplant (288-cell plug tray):** 2 to 3 weeks

Container Size	Plants per Pot	Weeks from Transplant
1801s, 4 to 4.5-in. (10 to 11-cm) pots	1*	4-5 (green)
Gallon container	1-2*	5-6 (green); 12-14** (flowering)

This crop time is based on a 68°F (20°C) daily average temperature. When plants are grown in warm temperatures, crop time can be 2 or more weeks shorter.

\*For multiple-sown plugs, only 1 plug is needed per pot. For single-sown plugs, plant the plugs close together in the center of the pot. Jade Princess does branch very well and therefore needs less seeds per cell/pot.

\*\*Gallon container crop time is for plants with flower spikes emerging. See Growth Regulator recommendations for producing shorter plants with flower spikes.

When selling plants "green," the crop time is for plants with roots established enough to hold the substrate together and with a height of 12 to 16 in. (30 to 40 cm). Allowing plants to become excessively rootbound or to flower prior to planting in the landscape results in shorter plants.

### **Direct Sowing**

Crop time can be reduced by 2 weeks if seed is direct sown into the final container. If directly sown, the seed can be easily germinated in the finished area. See **Plug Production** for sowing, temperature and soil moisture recommendations.

**Note:** Jade Princess does not perform well in cooler temperatures.

### **Common Problems**

**Insects:** Aphids

**Diseases:** No serious problems

### **Garden and Landscape Tips**

- Jade Princess is about one-third the height of Purple Majesty and about two-thirds the height of Purple Baron and Jester.
- Plant in full sun for darkest purple color.
- Space plants 10 to 12 in. (25 to 30 cm) apart.
- Transplant into the garden before the plants become excessively rootbound. Rootbound plants will be shorter than non-rootbound plants.

**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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