

# ***Zinnia elegans*** ***Benary's Giant Orange***

Zinnia

## ***Culture guide***

### **Uses:**

Plants for bedding, pot plants, beautiful plants, that attract bees and butterflies, cut flower production

### **Exposure:**

Sun

### **Garden height:**

39" / 100 cm

### **Crop time:**

9-10 weeks

### **Sow time:**

Indoor forcing: February-March for flowering in pots from July onwards; Outdoor forcing (frost free): End May, can be sown directly into field

### **Sowing method:**

1 seed per plug

### **Germination:**

7-10 days at 68-72 °F (20-22 °C). Higher temperatures can reduce germination and cause weak seedlings. Sow seeds in a well-drained media low in nutrients with a pH between 5.8-6.2. Cover seed lightly with vermiculite.

### **Growing On:**

Grow on at 60-65 °F (15-18 °C) for 3-4 weeks. Temperatures below 60 °F (15 °C) delays flowering. Provide good ventilation. Fertilize weekly at 200 ppm nitrogen in a well-balanced mix. Use of calcium nitrate will improve stem strength. For cut flower production, thin seedlings or plant plugs at 8-10" (20-25 cm) in rows or 9-12" x 12" (23-30 cm x 30 cm) spacing in beds.

### **Media:**

Use a well-drained, growing perennial substrate with 15-30 % clay, 1-1,5 kg/m<sup>3</sup> complete balanced fertilizer, iron-chelate, micronutrients, pH: 5.8-6.2. Field: loamy, sandy, humus soils with good drainage. Disinfect the soils in greenhouse or polytunnel before planting. Standard fertilization: 80-100 g/m<sup>2</sup> of a slow release fertilizer.

### **Temperature:**

Grow at 15-16 °C or outdoors. temperatures below 10 °C promote yellow leaves. Zinnia does tolerate high temperatures of 25 °C, but does not tolerate frost. It is recommended to harden for selling the plants slowly at 12-14 °C. In field Zinnia prefers warm and sunny location. Protect the plants against wind.

**Fertilization:**

Moderate fertilization levels are required. Fertilize the crop weekly with 100-150 ppm nitrogen, using complete balanced fertilizer. Avoid high ammonium and high nitrogen levels, but high nitrogen levels results in soft stems. Stems that are too soft will break underneath the flower. Prevent magnesium deficiency by applying magnesium sulphate (0,05 %) 1-2 times and in case of iron deficiency apply iron-chelate for 1-2 times. The roots are sensitive to high salt levels in substrates. Field: N min soil value: approximately 120 g N/m<sup>2</sup>.