

## Warm Climate Production Guidelines for Specialty Cut Flowers: Zinnia

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The cut Zinnia is a long lasting cut flower with easy field production in spring and fall. Heat tolerance and disease problems in mid summer limit its production at that time of year.

The Zinnia has a composite flower ranging in size from 2" to 6" wide on a long stem with opposite lanceolate leaves. Upright, bushy habit, size averages 30" tall, but dwarf cultivars that grow to 6" for bedding use are available and cut flower cultivars up to 3' are common. Flower types include single, semi-double, double, (dahlia flowered) and cactus (ruffled) flowered. Zinnia is a drought tolerant warm weather annual that does not tolerate frost. This flower is available in a wide variety of colors; color availability is often seasonally dependent for cut flower sales. Shorter cultivars are also used in annual beds, borders, and containers.

### Commercial Production guidelines For Cut Zinnia

Soil: pH preference 5.5-7.5, and addition of composted organic matter is beneficial. Research results at UF/IFAS show faster crop time in soils amended with the addition of well-cured compost as well as benefits from enhanced soil properties such as improved cation exchange capacity of the soil.

Light levels: Full sun is best for commercial cut flower production.

Production temperatures: Minimum 60°F day; lower temperatures slow and may halt development

Fertilization: Side dress with a commercial fertilizer for row culture. Either supplement fertilized beds with 100 ppm N in a balanced fertilizer or fertilize with 200 ppm N in a balanced fertilizer every other watering and at least once a week minimum.

Propagation: Zinnias are grown from seed. Sow seed directly in the field, germination occurs at 74-80\_F in five to seven days. Plug seedling transplants can be produced; set out 3-6 week old seedlings that have been fertilized weekly prior to transplanting with 20-20-20 at 150ppm. Sequential planting is important for sustained production of high quality flowers throughout your marketing season.

Pinching required: None for cut flower use. Larger flowers are produced if side shoots are removed.

Plant Growth Regulator recommendations: None

Photoperiod: Zinnias are a quantitative short day plant, longer days lengthen time to flower but they will flower any time of year.

Spacing: Narrow spacing is better for flowering, as it reduces side branching, but is best for single harvest; wide spacing at 2' between rows and 6" within the row is better for multiple harvests. In bed culture 6" between plants was satisfactory for summer production in Florida.

Support: The taller cut flower cultivars often require additional support. Wire or mesh netting is often used when grown in bed culture. Scheduling: 60-70 days from seed to flower is often cited. However, the time varies considerably from winter short days to summer's longer days, sow seeds after last freeze or sow plug seedlings 3-4 weeks before the last frost for

transplanting. We found that June sowing took 100 days to first flower while a mid-August sowing took 83 days.

**Common Problems:** Bud worms and grasshoppers can damage flowers but can be controlled easily with biological or conventional pesticides. Thrips, Alternaria leaf spot, and powdery mildew are often seen. Plants infected with bacterial stem blight should be rouged out and cut flowers discarded from infected plants.

Similarly, virus infected plants should be rouged and cutting tools disinfected every few feet of cutting-especially after encountering a virus or bacterial stem blight infected plant. Zinnias are also very sensitive to boron imbalances.



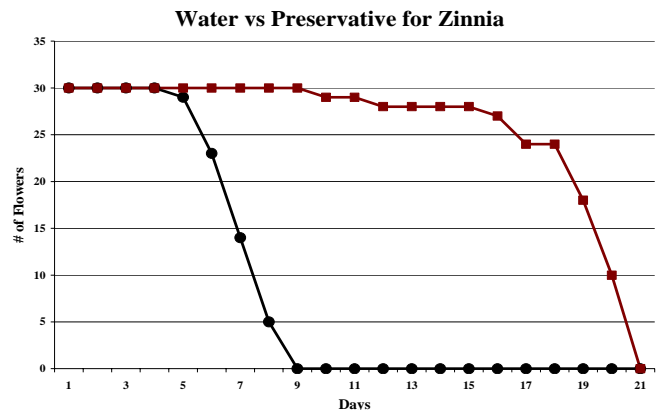
Benary Seed's Giant Lime cultivar produces 3-4" Pale green flowers that are also excellent for cutting. When selecting cutting cultivars be sure to look for the most robust growth habits and avoid compact or dwarf types.

### Recommended Cultivars:

'Benary's Giant' series, 'State Fair' Mixed is well known by flower market customers. Smaller flower varieties such as the 'Oklahoma' series or 'Ruffles Mix' produce more salable cut stems per week (4-5) per square foot than the larger varieties like 'Big Red' or 'Benary's Giant' (2), but do not fill up a bouquet as fast.

### Consumer / Post harvest information:

**Cut Flower:** Cut when flowers are fully developed and when pollen begins to show. Leave two to three leaf pairs on stem. Store at 42-45°F for up to one week. Zinnia benefit dramatically from the use of floral preservatives in all stages of harvest and post harvest handling. The figure below (see Figure 3) from UF/IFAS research shows the benefit of extending the vase life with fresh flower food. Do not include flowers in bunches or bouquets that are infected with vascular bacterial stem blight as it will reduce post harvest life drastically



### Grower resources:

**Growing For Market.** Edited and published by Lynn Bycznski. Fairplains Publications, Box 3747, Lawrence, KS 66046. Phone: 785-748-0605

**Sustainable Cut Flower Production.** An online resource of Appropriate Technology Transfer for Rural Areas (ATTRA). Contact ATTRA: PO Box 3657, Fayetteville, AR 72702. Phone: 1-800-346-9140 FAX: (501) 442-9842

<http://www.attra.org/attra-pub/cutflower.html>

**Association of Specialty Cut Flower Growers, Judy Laushman, Executive Director**  
MPO Box 268, Oberlin, OH 44074, phone 440-774-2887 <http://www.ascfg.org>

### References:

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**Table 1: Cultivar Information**

Cultivar	Color	Plant Size	Flower Size
Border Beauty	Mixture or Rose toned as a single color, double blooms	18-22"	3-4"
Oklahoma	Series of all colors, or mixed. Double blooms	18-24"	3-4", or as a mix
Marvel Yellow	Yellow, Dahlia type flowers.	15"	4-5"
State Fair	Mixture. Double blooms.	30-36"	4-6"
Ruffles Mix	Mixture of colors, petals ruffled.		
Burpeanna Giant	Mixture, Cactus flowered	24-30"	5-6"
Benary Giant	Series of all colors	30-34"	5-6"
Envy	Chartreuse green	24-30"	3"
Blue Point Series	Full Series of Colors	30-34"	4-6"
Pumila	Series of all colors	24-30"	3-4"
Cactus Flowered Mix	Series of all colors, petals serrated.	24"	4-6"
Candy Cane	Red and White Striped flowers.	17"	3"
Cut-N Come Again	Mixture, singles and doubles.	24-36"	2-2.5"
Dahlia Flowered Mix	Full series of colors, petals slightly rolled.	30"	4-5"
Lilliput	Full series of colors, double flowers.	18-24"	2-3"
Rose Pinwheel	Deep Rose, single flowers.	12"	3"
Whirligig	All double bi-color flowers in assortment	20"	3-5"