

Warm Climate Production Guidelines for Specialty Cut Flowers: Sunflower

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Sunflower production for field produced cut flowers in Florida is a growing industry. The variety trials work completed at the University of Florida by Dr. Everett Emino teach growers which varieties perform best under north Florida conditions.

Introduction

One of the four Native American commercial crops of global importance, sunflowers are also widely grown for cut flower production. An upright stem from 1-10' high terminates in a composite flower. Commercial cut cultivars of Sunflower are drought tolerant, preferring full sun, and are capable of growing in a wide range of soil conditions. They are commonly used in the landscape for borders or screening, or in containers. Many cultivars are available in colors ranging from yellow to bronze, red, or cream, and bi- or multi- color form flowers (see Table 1).

Flowering season for Sunflowers in northern climates runs from July until the first frost. According to Armitage, (Manual of Annuals, Biennials, and Half-Hardy Perennials) however Florida growers may be able to produce quality crops year round depending on their location within the state. There has been resurgence in the popularity of sunflowers since the Japanese introduced (around 1990) F₁ hybrids that don't shed pollen. "The lack of pollen shedding made the flower much more attractive to department stores, mail-order sources, and high-end designers, who no longer had to worry about messy pollen shed."

Commercial Production guidelines for Cut Sunflower

pH preference: 6.5-7.5

Light levels: full sun

Production temperatures: 72-86°F for growth, 46-50°F for germination.

Fertilization: potassium necessary for stem strength, esp. for cut flower production. Apply fertilizer at planting with the band 2-12" to the side and 2-6" below the seed. Apply side dressings as needed. Liquid feed 20-20-20 at 100-200ppm.

Propagation: sow seeds in situ at a soil temp of 46-50°F after last freeze. IF seedling plugs are used it is critical that they not be allowed to become root bound as this will lead to stunted plants, and low quality stem length.

Pinching required: None of these plants are predominantly grown as single stem flowers. There are cultivars, called branching varieties, which will produce spray type cut flowers, in these cases a pinch is given when plants are established in the field approximately two weeks after planting.

Plant Growth Regulator recommendations: While no plant growth regulators are used in field cut flower production, it is common to treat either seeds or emerging seedling in the liner tray with low levels of paclobutrazol or Daminozide to control stretch in the liner phase of production.

Photoperiod: cultivar dependent-most are day-neutral, and flowering is usually faster with shorter days. An example of this would be the seasonal transition from summer into early fall.

Spacing: Seedlings or liners should be planted 1.5-2.5" deeper than the liner media level. This increased depth at planting helps to stabilize the plant in the soil and reduce lodging when the flowers

begin to develop. Plants should be spaced 9-12" apart in the row with rows 18-36" apart. A lower planting density of 40-50k plants per acre results in better stem quality and larger flowers. Grower should decide upon their spacing based on the grade of stems they need to produce to meet local market demands.

Scheduling: Sow seeds weekly or biweekly to maintain steady supply of flowers throughout season.



Cultivar selection is critical in terms of meeting market needs and making the most of the season. Sunflowers have a long season through spring and into summer. Central and South Florida producers may be able to extend their season into fall and winter.

Common Problems:

Physiological disorders: Overhead watering can lead to spotting on flower petals, also accumulation of water within the flower itself can lead to later botrytis infections, and stem breakage.

Insect and pests: Sunflower beetle, Cucumber beetles attack foliage and flower petals. Other insect pests include whitefly, and sunflower maggot.

Diseases: Downy mildew, sclerotinia root and stalk rot, verticillium wilt, rust and powdery mildew.

Weed Control: Weed control is essential to quality cut flower production. The following is a list of herbicides used in cut flower production; always follow label directions when applying or using herbicides.

Pre-emergence herbicides: Bensulide (Betasan), Dithiopyr (Dimension), Napropamide (Devrinol), Oryzalin (Surflan), Pennant (metolachlor), and Trifluralin (Treflan).

Nonselective, post-emergence herbicides: Diquat (Reward), Glufosinate (Finale), Glyphosate (Roundup-Pro), Paraquat (Gramoxone), and pelargonic acid (Scythe).

Selective, post-emergence herbicides: Clethodim (Envoy), fluazifop-p (Fusilade), and (Vantage).

Harvesting: Harvest cut flowers when petal color becomes visible. Cut stems as long as possible during cool period of the day and when flowers are free from dew, place in floral preservative or acidified clean water. Avoid cutting flowers in the heat of the day as post harvest life is reduced when flowers are harvested hot from the field.

Consumer / Post harvest Information:

Cut Flower: strip leaves from bottom half of stem, re-cut under cold water, store at 36-40°F for up to one week. 7-10 day vase life.

Potted Plant: use 'Big Smile' for small pots, 'Pacino' for med-large plants.

Commercial Sources for Cut Sunflower

Specialty Cut Flower – Sunflower Cultivar Trial 2003.
<http://hort.ifas.ufl.edu/floriculture/specialty-cut/sunflower/sunflowertrial.htm>

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>

Sunflower Production. North Dakota State University Extension Bulletin #25 (1995)
<http://www.ext.nodak.edu/extpubs/plantsci/rowcrops/eb25w-1.htm>

Helianthus.com is a web resource featuring most common cultivars and basic information on the plants. <http://www.helianthus.com/>



Cultivar trials at the University of Florida explore cultivar, fertility and plant spacing effects on the quality of cut Sunflowers.

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Table 1: Cultivar Information

Cultivar	Color	Habit	Plant Size	Flower Size	Schedule	Breeder
Autumn Beauty	Mixed	Single Stem	5-6'	4-6"	95-100 days	Benary
Teddy Bear	Double Yellow	Single Stem	3-4'	4-6"	95-100 days	Sahin
Giant Sungold	Double Yellow	Single Stem	5'	5-6"	85-95 days	Benary
Ikarus	Yellow	Branching	4-5'	5-6"	85-95 days	Benary
Soraya	Orange	Branching	5-6'	4-6"	85-95 days	Benary
Prado Gold	Yellow	Branching	4-5'	6"	70-85 days	PanAmerican
Prado Red	Red	Branching	4-5'	6"	70-85 days	PanAmerican
Cutting Gold	Yellow	Single Stem	5-6'	4"	70-80 days	Benary
Florenza	Bicolor	Branching	4-5'	5"	70-80 days	Benary
Halo	Yellow	Branching	5"	4-5"	70-80 days	Benary
Holiday	Yellow	Branching	4'	4-5"	70-80 days	Benary
Del Sol	Yellow	Single Stem	4-5'	4-5"	70-75 days	PanAmerican
Ring of Fire	Bicolor	Branching	4-5'	5-6"	70-75 days	Benary
Sunbright	Yellow	Single stem	5'	4-6"	70-75 days	Sakata
Floristan	Bicolor	Single Stem	5'	6"	60-70 days	Benary
Valentin	Yellow	Branching	5-6'	4-6"	60-70 days	Benary
Sunrich Lemon	Yellow	Single stem	4-5'	5-6"	60-65 days	Takii
Sunrich Orange	Orange	Single stem	4-5'	5-6"	60-65 days	Takii
Sonja	Orange	Branching	3-4'	4"	55-60 days	Benary
Premier	Yellow	Single Stem	3-4'	3-5"	40-50 days	Takii