



# 1998 Hoop House Cut Flower Trial

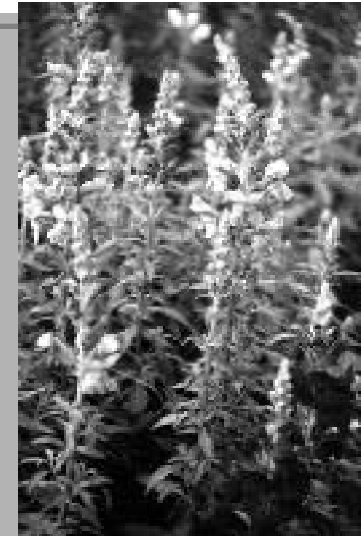
By Steve Upson, Horticulturist

Production of cut flowers is currently experiencing a revival across the country. In Oklahoma, interest in this alternative enterprise is increasing as evidenced by the hundreds of individuals attending Oklahoma State University Cooperative Extension sponsored workshops.

Reasons for growing cut flowers are as diverse as the people who grow them. Market gardeners find cut flowers to be an excellent complement to their crop mix. Parents needing to stay home with small children or who have high school or college age kids requiring summer work find cut flowers to be a good choice. Retirees needing to supplement their income find the cut flower business attractive.

The vast majority of cut flowers are field grown. However, like so many other types of horticulture crops, cut flowers are susceptible to Oklahoma's chaotic weather.

For the past couple of years, Noble Foundation horticulture specialists have been promoting hoop house\* culture as one possible solution to local weather woes. This spring, horticulturists conducted their first hoop house cut flower trial at the Foundation's Horticulture Center at Headquarters Farm east of Ardmore.



*Snapdragons*

**Table 1. Flower Harvest as Influenced by Calendar Date**

Treatment (variety)	# of Stems	# of Stems	# of Stems	Total
80 plants/treatment	April	May	June	
Ageratum 'Blue Horizon'	76	614	1076	1766
Ageratum 'Red Top'	163	1829	1156	3148
Aster 'Matsumoto Blue'	0	442	156	598
Calendula 'Prince Mix'	0	1210	641	1851
Carthamus 'Lasting Orange'	73	5	0	78
Celosia 'Century Mix'	31	388	735	1154
Cosmos 'Bright Lights'	306	2792	833	3931
Marigold 'Gold Coin'	135	870	1350	2355
Salvia 'Victoria'	5	1046	1246	2297
Snapdragon 'Rocket'	66	392	741	1199
Sunflower 'Valentine'	0	168	350	518
Zinnia 'Ruffles'	78	751	1220	2049

The hoop house chosen for the study measures 20 feet by 68 feet and is equipped with four raised beds measuring 40 inches by 60 feet. Bed preparation included fertilizer incorporation and drip hose installation followed by application of black plastic mulch. Treatments consisted of 12 varieties of various kinds of cut flowers (see Table 1), each receiving equal amount of bed space – 20 linear feet per variety.

On March 24, 11 of the varieties were transplanted and one (sunflower) was direct seeded into the beds. All plants were set in rows spaced 8 inches apart, four rows per bed. In the row, plants were spaced 12 inches apart. Plants were staggered between rows to maximize use of space.

A total of 145 man-hours were required for such tasks as bed preparation, planting, installing crop support structure, spraying, and harvesting. More than half of that time (82 hours) was required for harvest. The first harvest occurred April 8, and continued through June 26. Table 1 summarizes flower harvest by month.

Based on yield data and quality evaluation, 11 of the 12 varieties show potential as

commercially viable hoop house crops. *Carthamus* proved to be a complete flop due to lack of stem production.

Initially, two sunflower varieties were included in the sunflower treatment. One of the varieties, “Velvet Tapestry,” was removed early because of excessive height. The other variety, ‘Valentine,’ remained manageable although it was tall. Based on our experience with sunflowers, priority should be given to dwarf varieties for hoop house culture.

Snapdragon, although at times beautiful, never realized its full potential as a result of abnormally high temperatures during May and June. In a “normal” spring, snapdragon could be a big success. Another trial is in the works to determine the ultimate worth of snapdragon as a hoop house crop.



*A bucket of cut flowers ready to sell.*

**Table 2. Estimated Value of Selected Hoop House Grown Cut Flowers (Wholesale)**

Flower	# of Stems per Plant	# of Stems per House <sup>1</sup>	Price per Stem	Value
Ageratum 'Blue Horizon'	22	21,120	.50	\$10,560
Ageratum 'Red Top'	39	37,440	.50	\$18,720
Aster 'Matsumoto Blue'	7	6,720	.60	\$ 4,032
Calendula 'Prince Mix'	23	22,080	.30	\$ 6,624
Celosia 'Century Mix'	14	13,440	.50	\$ 6,720
Cosmos 'Bright Lights'	49	47,040	.05	\$ 2,352
Marigold 'Gold Coin'	29	27,840	.60	\$16,704
Salvia 'Victoria'	29	27,840	.50	\$13,920
Snapdragon 'Rocket'	15	14,400	.70	\$10,080
Sunflower 'Valentine'	6	5,760	.75	\$ 4,320
Zinnia 'Ruffles'	26	24,960	.60	\$14,976

- Area of House = 1,360 square feet
- Plant Population = 960

<sup>1</sup> Calculated number of stems produced if entire house was planted to designated variety.

Prices paid to growers for hoop house quality cut flowers as quoted by a local florist during June ranged from a low of \$.05 per stem for cosmos to a high of \$.75 per stem for sunflower. Table 2 shows potential sales of selected cut flowers grown in one of our 20-foot by 68-foot hoop houses.

Of all the hoop house crops evaluated, none came close to matching cut flowers in terms of profit potential. If preliminary results are any indication, hoop house cut flower production is an idea whose time has come.

\* For more detailed information on hoop houses, write to *The Noble Foundation*, PO Box 2180, Ardmore, OK 73402 for publication NF-HO-98-04, or see it on our web site at [www.noble.org](http://www.noble.org).



*Asters*



*Setting flower transplants through black plastic mulch.*