

## **Consumer Survey of Chrysanthemum Cultivars**

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**Nature of Work:** Recent data released by ERS (2004) indicate that the U.S. chrysanthemum market consisting of cut flowers, potted florist plants and garden plants had been slowly growing during the last decade. Most of the growth in the industry came from the expanded production of garden plants, which offset the continued reduction in potted florist plant production. The cut chrysanthemum market is primarily supplied by imports with domestic production contributing between 22% of the value and 16% of the volume of total U.S. consumption. The per capita chrysanthemum consumption in the U.S. in 2002 was \$0.88 consisting of \$0.21, \$0.27 and \$0.40 for cut flowers, potted florist plants and garden plants, respectively. Between 1992 and 2002, cut chrysanthemums were sold wholesale averaging \$1.27 per bunch. The 'under 5 inches' and '5 inches and more' potted florist chrysanthemums were sold wholesale averaging \$1.48 and \$3.56 per pot, respectively. The wholesale price of garden chrysanthemums averaged \$0.91 and \$1.85 per pot for 'under 5 inches' and '5 inches and more', respectively. The overall goal of this study was to evaluate consumer preferences for garden chrysanthemum cultivars. Its specific objectives were as follows: to determine the levels of liking and willingness to pay for selected chrysanthemum cultivars, and to measure relative influence of consumer socioeconomic

characteristics. The survey was conducted on October 17 and 18, 2003 during the Fall Flower and Garden Fest at the Truck Crops Experiment Station in Crystal Springs, MS. There were nine cultivars of garden chrysanthemums presented to the consumer survey participants in different pot sizes. The '8x5' pot size is an 8-inch wide by 5-inch tall mum pan, the '9x6' is a 9-inch wide by 6-inch tall mum pan, and the '10x9' is a 10-inch wide by 9-inch tall Foliage pot. All the containers were black polyethylene blow molded containers manufactured by Nursery Supplies Inc. 'Adonis Purple', 'Amor Yellow White', 'Freya Salmon', 'Road Runner Bronze' were presented in three pot sizes - 8x5, 9x6 and 10x9. 'Venus Purple', 'Starlet Ivory', 'Mithra Maroon', and 'Amata Purple' were potted in 9x6 and 8x5 pots. 'Night Hawk Lemon' was presented in 10x9 pot. In this paper, the willingness to pay (WTP) and levels of liking (LOL) for the 21 garden chrysanthemums between those respondents who bought and did not buy chrysanthemums in 2002 were compared.

**Results and Discussion:** Most of the participants to the consumer survey were females (82.6%), Caucasians or Whites (84.9%), and with household income between \$25,000 and \$75,000 (56.2%). The average participant was about 58.7 years old, had 2.3 persons in his/her household and completed 14.2 years of formal education (Table 1). The average responses to the question "How much do you like this variety" are presented in Table 2. The cultivar which received a rating above 6.00 was 'Amor Yellow White' in 10x9 inch pot. The respondents who did not buy any chrysanthemum in 2002 (LOL=6.23) liked it more than those respondents who bought chrysanthemums in 2002 (LOL=5.91). The four cultivars which were rated between 5.75 and 6.00 included 'Adonis Purple' in 10x9 pot, 'Freya Salmon' in 10x9 pot, and 'Night Hawk Lemon' in 10x9 pot. The average willingness to pay for the individual potted chrysanthemum cultivars

revealed by the respondents was not significantly different between those who bought and did not buy chrysanthemums in 2002, as shown in Table 3. The cultivar which was valued most by the respondents (WTP=\$13.02/plant) was 'Amor Yellow White' presented in 10x9 pot. The other chrysanthemum cultivars which were valued at above \$10 per potted plant included 'Freya Salmon', 'Adonis Purple', 'Road Runner Bronze', and 'Night Hawk Lemon' which were all in 10x9 pots.

**Significance to the Industry:** With a growing domestic market of garden chrysanthemums, growers have to make investment and production decisions based on the 'potential buying decisions' of consumers for these new cultivars. The marketing margins between the wholesale and retail levels are limited for most of the cultivars and favorable for a few. Since growers know their production costs, they can adequately assess the role they would like to play in the domestic market for garden chrysanthemums.

**Literature Cited:**

ERS. 2004. USDA Economics, Statistics and Market Information System. U.S. Department of Agriculture, Economic Research Service. <http://usda.mannlib.cornell.edu/>. Verified May 27, 2004.

Table 1. Socioeconomic characteristics of respondents who bought and did not buy chrysanthemums in 2002

Characteristics	Bought Chrysanthemum	Did not buy Chrysanthemum	Total
Gender			
Male	10.5%	6.9%	17.4%
Female	59.8%	22.8%	82.6%
Total	70.3%	29.7%	100.0%
Household Income			
Below \$25,000	12.6%	4.9%	17.5%
\$25,000-\$50,000	22.8%	8.2%	31.1%
\$50,001-\$75,000	20.0%	5.1%	25.1%
\$75,001-\$100,000	9.3%	3.3%	15.2%
Above \$100,000	9.3%	1.9%	11.1%
Total	76.5%	23.5%	100.0%
Race			
Native American	7.4%	3.2%	10.7%
Caucasian	66.4%	18.5%	84.9%
African American	1.9%	1.1%	3.1%
Others	1.0%	0.4%	1.3%
Total	76.7%	23.3%	100.0%
Average age (yr)	58.8	58.3	58.7
Average household size	2.3	2.2	2.3
Average formal education (yr)	14.4	13.9	14.2

Table 2. Average responses <sup>1</sup> to the question “How much do you like this variety?” according to whether the respondent bought or did not buy chrysanthemums					
Code	Plant	Pot size (inch)	Bought Chrysanthemum	Did not buy Chrysanthemum	Total
U	Amor Yellow White**	10x9	5.91	6.23	6.14
C	Adonis Purple	10x9	5.83	6.02	5.96
O	Freya Salmon	10x9	5.70	5.85	5.80
H	Night Hawk Lemon	10x9	5.83	5.78	5.80
G	Mithra Maroon	8x5	5.61	5.76	5.72
S	Mithra Maroon	9x6	5.60	5.68	5.65
A	Road Runner Bronze*	10x9	5.46	5.72	5.64
P	Venus Purple**	8x5	5.46	5.68	5.61
I	Amor Yellow White***	9x6	5.24	5.64	5.52
J	Adonis Purple	8x5	5.50	5.52	5.51
E	Adonis Purple	9x6	5.35	5.53	5.48
K	Road Runner Bronze	8x5	5.36	5.51	5.47
T	Road Runner Bronze	9x6	5.34	5.53	5.47
R	Starlet Ivory	9x6	5.25	5.48	5.41
F	Venus Purple*	9x6	5.18	5.47	5.39
L	Amata Purple*	9x6	5.19	5.43	5.36
B	Amor Yellow White*	8x5	5.06	5.34	5.26
M	Freya Salmon	9x6	5.08	5.17	5.14
D	Freya Salmon	8x5	4.99	5.18	5.12
Q	Amata Purple	8x5	5.01	5.12	5.09
N	Starlet Ivory	8x5	4.98	5.08	5.05

<sup>1</sup> -A response of 1 would indicate that you strongly dislike it or a 7 would indicate that you strongly like it. A rating of 4 means you neither strongly like nor strongly dislike the plant.

\*, \*\* and \*\*\* - Significantly different between respondents who bought and did not buy chrysanthemums in 2002 at 0.05, 0.01, and 0.001, respectively.

Table 3. Average responses <sup>1</sup> to the question “How much are you willing to pay for this plant?” according to whether the respondent bought or did not buy chrysanthemums.					
Code	Plant	Pot size (inch)	Bought Chrysanthemum	Did not buy Chrysanthemum	Total
U	Amor Yellow White	10x9	\$12.36	\$13.24	\$13.02
O	Freya Salmon	10x9	\$11.92	\$12.50	\$12.35
C	Adonis Purple	10x9	\$12.13	\$11.99	\$12.03
A	Road Runner Bronze	10x9	\$11.40	\$11.68	\$11.61
H	Night Hawk Lemon	10x9	\$11.92	\$11.15	\$11.35
S	Mithra Maroon	9x6	\$9.29	\$8.60	\$8.78
I	Amor Yellow White	9x6	\$8.79	\$8.66	\$8.69
K	Road Runner Bronze	8x5	\$8.77	\$8.48	\$8.56
T	Road Runner Bronze	9x6	\$8.78	\$8.48	\$8.56
G	Mithra Maroon	8x5	\$8.96	\$8.27	\$8.45
R	Starlet Ivory	9x6	\$8.67	\$8.21	\$8.33
L	Amata Purple	9x6	\$8.31	\$8.22	\$8.25
P	Venus Purple	8x5	\$8.24	\$8.18	\$8.20
J	Adonis Purple	8x5	\$8.40	\$7.97	\$8.08
E	Adonis Purple	9x6	\$8.29	\$7.83	\$7.94
M	Freya Salmon	9x6	\$7.63	\$7.51	\$7.54
B	Amor Yellow White	8x5	\$7.50	\$7.32	\$7.37
Q	Amata Purple	8x5	\$7.38	\$7.31	\$7.33
D	Freya Salmon	8x5	\$7.32	\$7.31	\$7.31
F	Venus Purple	9x6	\$7.24	\$7.16	\$7.18
N	Starlet Ivory	8x5	\$7.15	\$6.84	\$6.92

<sup>1</sup> - in \$/plant.

No significant differences were observed between respondents who bought and did not buy chrysanthemums in 2002.

Figure 1. U.S. total wholesale value of chrysanthemums production and imports: cut flowers, florist potted plants, and garden plants. Source: ERS (2004)

