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Robert E. LeClerg

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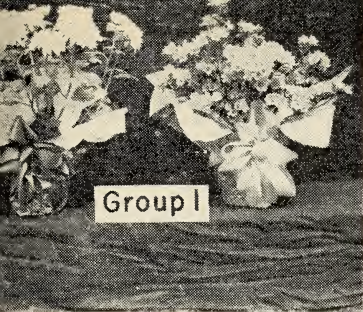
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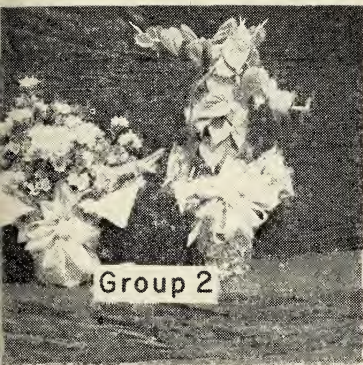
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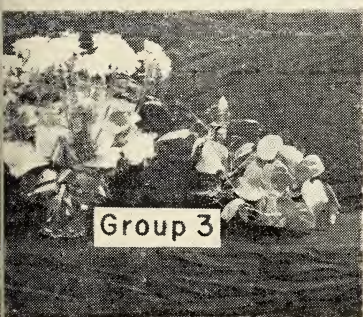
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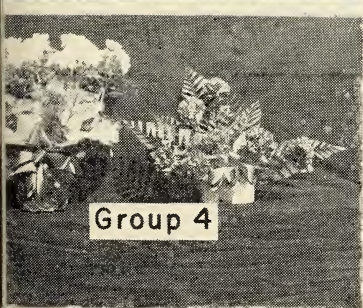
Group 1



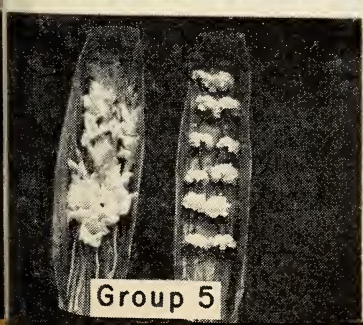
Group 2



Group 3



Group 4



Group 5

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# Consumer Preferences For Cut Flowers And Pot Plants In Mississippi

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MISSISSIPPI STATE UNIVERSITY  
AGRICULTURAL EXPERIMENT STATION

CLAY LYLE, Director

STATE COLLEGE

MISSISSIPPI

On the cover:

Consumers in this study were given their choice of the five groups shown on the cover.

Group 1. Pot chrysanthemum and azalea.

Group 2. Azalea and foliage plant, *Philodendron cordatum* on a totem.

Group 3. Pot chrysanthemum and container of foliage plants.

Group 4. Pot chrysanthemum and arrangement of red carnations.

Group 5. Twelve gladioli and twelve carnations, unarranged.

# CONSUMER PREFERENCE FOR CUT FLOWERS AND POT PLANTS IN MISSISSIPPI

By ROBERT E. LeCLERG

## Introduction

In recent years, florists have become concerned with developing new markets for flowers. Consumer incomes have increased over 50 percent during the past decade. More people can now provide for their basic needs and have money left for "luxuries" such as flowers.

Since production must be geared to the wants of the buying public, this study of flower preferences in Mississippi was undertaken by the Agricultural Experiment Station.

## Procedure

The sample was based on the Home Demonstration Clubs of the Mississippi Extension Service. This limited the sample to women, however, it is generally believed that women make most decisions regarding flower purchases.

Six counties were randomly selected out of each of the four supervisory districts of the state.<sup>1</sup> A visit was made to the County Home Demonstration Council meeting, usually held in the county seat of each selected county. This council was composed of the officers of the various Home Demonstration Clubs throughout the county. The survey was made during February, March, April, and May, 1958.

Each individual was asked to indicate her preference from a series of comparisons of blooming pot plants, cut flowers, and foliage plants which were on display (See cover page). For the purpose of this study, those items used were considered at an equivalent retail price. Additional information was obtained concerning other preferences for flowers and colors, buying habits, and opinion on vital areas of interest in flower marketing. Personal data, such as age educational level, gross income, and residential class-

ification, were obtained for evaluation purposes.

## Results

Each individual surveyed was shown a series of pairings and asked the following question: "Assuming you were making a purchase for enjoyment in your home, which of the two selections in each group would you prefer?" Table 1 shows the preferences expressed within each group.

The most pronounced result of this comparison study was the overwhelming preference for a foliage plant over an azalea (Group 2). Over 70 percent selected the foliage plant, *Philodendron cordatum* on a totem. The choice of gladioli over carnations (Group 5) by nearly 64 percent of the individuals indicated their desire for flowers with as many blooms and as much color as possible, and with longer lasting enjoyment.

Although price was considered comparable, preferences indicated that a pot plant was favored over an arrangement of cut flowers (Group 4), with more than 63 percent selecting the potted chrysanthemum rather than a red carnation arrangement. Further evidence of the popularity of foliage plants is shown in Group 3 in which an arrangement of foliage was chosen over a pot chrysanthemum by nearly 61 percent of the sample. It is interesting to note that there was a very slight preference for an azalea over a pot chrysanthemum (Group 1).

Undoubtedly one of the most convincing results of this study showed an almost unanimous choice of a blooming pot plant over a cut flower arrangement to be given as a gift. Nearly 92 percent indicated they preferred pot plants, giving mainly as their reason, the fact that potted plants last longer and can be transplanted outside in the garden. Of the comments by the 7 percent who preferred to give an

<sup>1</sup>In planning a travel itinerary, one of the 24 counties could not be scheduled.

Table 1. Preferences for several cut flower and pot plant combinations.

	G R O U P I N G S										
	I		II		III		IV		V		
	Pot Chrys-anthemums	Azalea	Azalea	Plant Foliage	Pot Chrys-anthemums	Foliage Arrangement	Pot Chrys-anthemums	Foliage Arrangement	Carnation Arrangement	Gladioli	Carnations
Total Responses	348	369	205	513	278	439	458	256	461	252	
Percent Total Responses	48.3	51.2	28.4	71.2	38.6	60.9	63.5	35.5	63.9	34.9	
No Answer	4		3		4		7		8		

Table 2. Color preferences for gladioli, roses, carnations, and chrysanthemums.

	F L O W E R									
	Gladiolus		Rose		Carnation		Chrysanthemum			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Red	86	11.9	404	56.0	277	38.4	13	1.8		
White	177	24.6	48	6.7	138	19.1	91	12.6		
Pink	238	33.0	104	14.4	230	31.9	28	3.9		
Yellow	91	12.6	120	16.6	15	2.1	407	56.4		
Mixed	138	19.2	14	1.9	20	2.8	71	9.8		
Other	12	1.7	3	0.4	3	0.4	68	9.4		
No Answer	29	4.0	28	3.9	38	5.3	43	6.0		
Total	721	100.0	721	100.0	721	100.0	721	100.0		



arrangement of cut flowers, most prevalent was that it seemed more personal and individual, and would be more pleasing in appearance.

The universal appeal of red roses was borne out in the results of the color preference portion of this study (Table 2). Fifty-six percent of those surveyed singled out the red rose as their favorite colored rose. The overall results compared favorably with a similar study conducted by the Ohio Agricultural Experiment Station.<sup>2</sup> Gladioli were not used in the Ohio project, but their sample<sup>3</sup> indicated red as the most popular color for both roses and carnations, and yellow for chrysanthemums.

Preference for yellow chrysanthemums appeared as definite as in the case of red roses, with 56 percent choosing that color in both studies. Pink carnations were found to be the second choice in this survey, while white was runner-up in Ohio. There does not seem to be as definite a favoritism for colors in the gladiolus. Pink was the more popular color, being selected by 33 percent, but it will be noted that nearly 20 percent indicated a preference for mixed colors.

Results of the question of mixed versus solid color flower arrangements were interesting because of a complete reversal as compared to the Ohio study. Almost 70 percent of the Mississippians preferred solid colors, with 28 percent selecting mixed color designs, but in Ohio, 82 percent stated they liked arrangements of several colored flowers, while only 16 percent chose solid colors. One possible explanation for this difference is the difference in sampling areas. The Ohio consumer panel was representative of a large metropolitan area, while in Mississippi the sam-

ple represented a predominately rural population. Perhaps florists in larger cities have more occasion to design arrangements using two or more colors, and the public has accepted mixed colors.

This survey showed that 60 percent of those individuals interviewed did not believe floral products were excessively expensive. Typical of the remarks made by some of the 34 percent who did indicate they felt flowers were excessively high in price were: "Too expensive to last so short a time", and "For the price they are not enjoyed very long". One individual stated that she felt "too much decoration (ribbon) is used that runs up the price and takes away the beauty of the flowers."

Other general comments included: "Prices go up on special occasions", "You don't usually get as good a quality as you should for the money paid", "They are higher in Mississippi than other places", and "Out of line for average wage earner, disrupts budget".

The public desire for flowers at a lower price was evidenced by many remarks such as "We should use more (flowers) than we can afford", "If prices were lower, consumers would buy more", and "Can go elsewhere and get the same for less". Then there was the blunt person who said that "most (florists) are like everything else trying to get all they can—fast". But there was one who did not feel floral products were expensive, commenting that "this work requires skilled workmanship".

When asked to indicate how often flowers and pot plants were purchased for home use and enjoyment, it was found that more than 60 percent did so only one or two times a year. Over 15 percent bought flowers three or four times, while only 5 percent purchased floral products more than five times a year. Only 16 percent of the sample stated they never bought flowers for this purpose.

Each person was asked her educational

<sup>2</sup>Sherman, R. W., Kiplinger, D. C., and Williams, H. C. *Consumer Preferences for Cut Roses, Carnations, Chrysanthemums*, Ohio Agricultural Experiment Station, Wooster, Ohio, March, 1956.

<sup>3</sup>Sample consisted of a consumer panel of 100 individuals drawn from the population of Columbus, Ohio.

level, gross income,<sup>4</sup> age, and residential classification. Below is a summary of this information

Educational level:	Gross Income:		
Grade School	10.4%	\$1,000-\$2,999	19.8%
High School	58.0%	\$3,000-\$4,999	30.2%
College	20.5%	\$5,000-\$7,499	16.2%
Graduate Study	4.7%	\$7,500 over	6.9%
No answer	5.5%	No answer	26.8%

The results showed that 80 percent of those questioned owned their own home, with 13 percent renting, and the balance not answering. The average age of the sample was 46.3 years.<sup>5</sup>

By placing all questionnaire information on IBM punch cards, it was possible to study the inter-relationship between a number of the questions asked and such factors as age, income, and education.

Opinion as to the cost of floral products, for example, was found not to be related to income, age, education, residential classification, or frequency of purchase (Tables 3,4,5,6, and 7). However, over 45 percent of the individuals who never buy flowers believed them to be excessively

<sup>4</sup>In most cases this was the gross income of the lady's husband.

<sup>5</sup>Median age was found to be 47 years.

Table 3. Relationship of gross income to opinion as to whether floral products are excessively expensive.<sup>1</sup>

	GROSS INCOME				Percent total responses
	\$1,000-2,999	\$3,000-4,999	\$5,000-7,499	\$7,500 & Over	
Expensive	35.6	37.0	37.3	36.7	36.7
Not Expensive	64.4	62.9	62.7	63.3	63.3
Total	100.0	100.0	100.0	100.0	100.0
Total Responses	135	208	110	49	502 <sup>2</sup>

<sup>1</sup>Chi Square, 3 degrees of freedom, 0.1002, probability of larger value is greater than .99. with no association.

<sup>2</sup>Comprises 69.6% of total individuals interviewed.

Table 4. Relationship of age to opinion as to whether floral products are excessively expensive.<sup>1</sup>

	A G E					Percent total responses
	Up to 35	36-45	46-55	56-65	66 & over	
Expensive	31.5	35.0	36.6	39.3	25.0	35.0
Not Expensive	68.4	65.0	63.4	60.7	75.0	65.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Total Responses	133	157	183	112	32	617 <sup>2</sup>

<sup>1</sup>Chi Square, 4 degrees of freedom, 7.5542, probability of larger value is between .20 - .10, with no association.

<sup>2</sup>Comprises 85.6% of total individuals interviewed.

expensive. (Table 7). On the other hand, only 33 to 36 percent of those who do buy flowers for home enjoyment felt that flowers are excessively high in price.

In Table 4, which shows the relationship of age to this question of expensiveness, an increasing percentage of individuals, as their age increased, indicated flowers were too expensive. At age 66 and over the percentage dropped from 39 to 25 percent.

Data shown in Tables 8, 9, 10, and 11 indicate that income, age, residential classification, and education had little if any influence on the choice of pot plants or cut flowers to be given as a gift. In each case, on the average, about 93 percent of the individuals preferred blooming potted plants rather than arrangements of cut flowers. This figure is equivalent to that percentage of the entire sample of 721 individuals who chose pot plants. Slight variations from the average will be noted in several cases. In the \$5,000-\$7,499 income bracket, for example, 10.5 percent indicated a preference for cut flowers as compared to an average of 7 percent for the entire group (Table 9). Similar results are to be found in the

**Table 5. Relationship of educational level to opinion as to whether floral products are excessively expensive.<sup>1</sup>**

	EDUCATIONAL LEVEL				Percent total responses
	Grade School	High School	College	Graduate Level	
Expensive	36.1	33.7	38.6	36.4	35.2
Not Expensive	63.9	66.3	61.4	63.6	64.8
Total	100.0	100.0	100.0	100.0	100.0
Total Responses	72	395	140	33	640 <sup>2</sup>

<sup>1</sup>Chi Square, 3 degrees of freedom, 1.1488, probability of larger value is between .80 - .70, with no association.

<sup>2</sup>Comprises 88.8% of total individuals interviewed.

**Table 6. Relationship of residential classification to opinion as to whether floral products are excessively expensive.<sup>1</sup>**

	RESIDENTIAL CLASSIFICATION		Percent total responses
	Owner	Renter	
Expensive	35.4	36.3	35.5
Not Expensive	64.6	63.7	64.5
Total	100.0	100.0	100.0
Total Responses	545	91	636 <sup>2</sup>

<sup>1</sup>Chi Square, 1 degree of freedom, 0.0200, probability of larger value is between .90 - .80, with no association.

<sup>2</sup>Comprises 88.2% of total individuals interviewed.

**Table 7. Relationship of the frequency of purchase of flowers and plants for home enjoyment to the opinion as to whether floral products are excessively expensive.<sup>1</sup>**

	Frequency of Purchase				Percent total responses
	1 or 2 times	3 or 4 times	5 or more	Never	
Expensive	33.6	35.9	35.1	45.5	36.0
Not expensive	66.4	64.1	64.9	54.5	64.0
Total	100.0	100.0	100.0	100.0	100.0
Total Responses	414	103	37	112	666 <sup>2</sup>

<sup>1</sup>Chi Square, 3 degrees of freedom, 5.4866, probability of larger value is between .20 - .10, with no association.

<sup>2</sup>Comprises 92.4% of total individuals interviewed.

**Table 8. Relationship of gross income to the preference for cut flowers or blooming pot plants as a gift.<sup>1</sup>**

	GROSS INCOME				Percent total responses
	\$1,000-2,999	\$3,000-4,999	\$5,000-7,499	\$7,500 & Over	
Expensive	6.4	6.5	10.5	4.0	7.1
Not Expensive	93.6	93.5	89.5	96.0	92.9
Total	100.0	100.0	100.0	100.0	100.0
Total Responses	141	216	114	50	512 <sup>2</sup>

<sup>1</sup>Chi Square, 3 degrees of freedom, 7.5649, probability of larger value is between .10 - .05, with no association.

<sup>2</sup>Comprises 72.3% of total individuals interviewed.



66-and-over age group (Table 9), and the college level group (Table 11).

A definite association was found between residential classification and frequency of purchase of flowers and plants for home enjoyment (Table 12). Sixty-four percent of those individuals owning their homes bought flowers only one or two times a year, while less than 48 percent of those who rent did so. Of those who stated they never purchased flowers, over 23 percent were in the renter category. This was 7.5 percent above the average. Less than the average were found to be owners (14.7 percent).

There were indications of some relationship between educational level and

frequency of purchase (Table 13). Considerably fewer individuals with at least a college education stated they never bought flowers or plants for their own pleasure. Ten percent more of the people with a college education purchase floral products three or more times a year than those with up to a high school level of education. No association was found with respect to age (Table 14) and income (Table 15).

### Summary

The purpose of this study was to determine consumer preferences in Mississippi for various cut flowers and pot plants.

Members of the Home Demonstration Councils throughout the state were inter-

Table 9. Relationship of age to the preference for cut flowers and blooming pot plants as gifts.<sup>1</sup>

	A G E					Percent total responses
	Up to 35	36-45	46-55	56-65	66 & over	
Cut Flowers	6.7	4.3	8.4	7.8	11.1	7.0
Pot Plants	93.3	95.7	91.6	92.2	88.9	93.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Total Responses	135	164	191	116	36	642 <sup>2</sup>

<sup>1</sup>Chi Square, 4 degrees of freedom, 3.4937, probability of larger value is between .50 - .30, with no association.

<sup>2</sup>Comprises 89.0% of total individuals interviewed.

Table 10. Relationship of residential classification to the preference for cut flowers and blooming pot plants as a gift.<sup>1</sup>

	RESIDENTIAL CLASSIFICATION		Percent total responses
	Owner	Renter	
Cut Flowers	7.4	6.3	7.2
Pot Plants	92.6	93.7	92.8
Total	100.0	100.0	100.0
Total Responses	571	95	666 <sup>2</sup>

<sup>1</sup>Chi Square, 3 degrees of freedom, 5.8837, probability of larger value is between .20 - .10, with no association.

<sup>2</sup>Comprises 92.4% of total individuals interviewed.

Table 11. Relationship of educational level to the preference for cut flowers and blooming pot plants as a gift.<sup>1</sup>

	EDUCATIONAL LEVEL		Percent total responses
	High School or below	College or above	
Cut Flowers	5.3	10.6	6.7
Pot Plants	94.7	89.4	93.3
Total	100.0	100.0	100.0
Total Responses	487	180	667 <sup>2</sup>

Chi Square, 1 degree of freedom, 5.6925, probability of larger value is between .02 - .01, with no association.

<sup>2</sup>Comprises 92.5% of total individuals interviewed.

**Table 12. Relationship of the frequency of purchase of flowers and plants for home enjoyment to residential classification.<sup>1</sup>**

Frequency of purchase	RESIDENTIAL CLASSIFICATION		Percent total responses
	Owner	Renter	
1 or 2 times	64.4	47.9	62.1
3 or 4 times	15.2	24.5	16.5
5 or more	5.7	4.2	5.5
Never	14.7	23.4	15.9
Total	100.0	100.0	100.0
Total Responses	565	94	659 <sup>2</sup>

<sup>1</sup>Chi Square, 3 degrees of freedom, 11.8531, probability of larger value is less than .01, with no association.

<sup>2</sup>Comprises 91.4% of total individuals interviewed.

**Table 13. Relationship of educational level to the frequency of purchase of cut flowers and plants for home enjoyment.<sup>1</sup>**

Frequency of purchase	EDUCATIONAL LEVEL		Percent total responses
	High School or below	College or above	
1 or 2 times	63.6	58.1	62.1
3 or 4 times	14.6	19.6	15.9
5 or more	4.1	9.5	5.6
Never	17.7	12.8	16.4
Total	100.0	100.0	100.0
Total Responses	486	179	665 <sup>2</sup>

<sup>1</sup>Chi Square, 3 degrees of freedom, 11.3238, probability of larger value is between .02 - .01, with no association.

<sup>2</sup>Comprises 92.2% of total individuals interviewed.

viewed, and asked to indicate their preferences from among several pairs of cut flowers, pot plants and foliage plants which they were shown. In addition, answers to various questions on color preference, buying habits, and personal data were obtained.

The average person interviewed had attained at least a high school education, was earning between \$3,000 and \$5,000, owned her home, and was about 47 years old.

A decided preference was found for foliage plants as compared to either an azalea or a pot chrysanthemum, and among cut flowers, gladioli were more popular than carnations. Blooming pot plants were an overwhelming choice over cut arrangements for gifts.

Red roses, yellow chrysanthemums, red carnations, and pink gladioli were the favorite in colored flowers. The majority of the individuals preferred the use of

solid rather than mixed colors in an arrangement.

Sixty percent of the sample did not feel floral products were excessively expensive, while more than this number only bought flowers and plants for home enjoyment one or two times a year.

Opinion as to the expensiveness of floral products was found not to be related to income, age, education, ownership of residence, or frequency of purchase. Likewise, the preference for cut flowers to pot plants as gifts was not associated with these five classifications.

Definite association was found between residential classification and the frequency of purchase of flowers for home enjoyment; and, there were indications that some relationship existed between educational level and frequency of purchase.

### Conclusions

Results of this survey emphasize the need for the florist industry to study new

methods of providing more flowers for more people. The consumer knows and appreciates the benefits of flowers, and wants to enjoy them more often in the home. It remains for the industry to activate this demand by providing acceptable flowers at prices which will satisfy this desire.

Generally speaking, the public does not believe floral products are excessively expensive, considering the high cost of living today. It is more a case of providing for the necessities first, and then with those spendable dollars that remain, enjoy certain "luxuries". Proper consumer education will help to overcome a feeling by some that flowers are too ex-

pensive. The use of new merchandising methods, such as "cash and carry" selling, will open new avenues of floral enjoyment for that part of the population whose income does not warrant frequent purchase of flowers.

The fact that there is a greater preference for potted plants than for arrangements of cut flowers, is another indication that more cut flowers should be made available at attractive prices. In addition, the flower buying public should be given every opportunity to learn to effectively use the cut flowers they buy. When more people know the basic principles of floral design, they will become desirous of using more flowers in their homes.

Table 14. Relationship of age to the frequency of purchase of cut flowers and plants for home enjoyment.<sup>1</sup>

Age	FREQUENCY OF PURCHASE				Percent total responses
	1 or 2 times	3 or 4 times	5 or more	Never	
Up to 35	21.4	20.4	22.2	21.2	21.2
36 - 45	24.4	24.3	27.8	31.3	25.6
46 - 55	30.4	33.0	30.6	26.3	30.2
56 - 65	17.3	18.4	16.7	17.2	17.5
66 and over	6.5	3.9	2.7	4.0	5.5
Total	100.0	100.0	100.0	100.0	100.0
Total Responses	398	103	36	99	636 <sup>2</sup>

<sup>1</sup>Chi Square, 12 degrees of freedom, 4.6814, probability of larger value is between .98 - .95, with no association.

<sup>2</sup>Comprises 88.2% of total individuals interviewed.

Table 15. Relationship of gross income to the frequency of purchase of cut flowers and plants for home enjoyment.<sup>1</sup>

Gross income	FREQUENCY OF PURCHASE				Percent total responses
	1 or 2 times	3 or 4 times	5 or more	Never	
\$1,000 - 2,999	28.3	26.6	6.7	21.3	25.5
\$3,000 - 4,999	41.8	41.5	43.3	26.9	38.9
\$5,000 - 7,499	20.8	22.3	33.3	17.6	21.1
\$7,500 & over	9.1	9.6	16.6	6.5	9.1
Total	100.0	100.0	100.0	100.0	100.0
Total Responses	318	94	30	108	550 <sup>2</sup>

<sup>1</sup>Chi Square, 9 degrees of freedom, 16.5665, probability of larger value is between .10 - .05, with no association.

<sup>2</sup>Comprises 76.3% of total individuals interviewed.