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**HOMEMAKERS' RESPONSE to  
FOOD INFORMATION in  
MASS MEDIA of . . .  
*Anniston, Birmingham, Montgomery***

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## SUMMARY OF FINDINGS

This report provides information on the nature and scope of response of 3,361 homemakers in three Alabama cities to educational food programs in newspapers, on radio, and in retail stores. Findings should be of interest to those involved in consumer education related to food.

Each media had a distinct audience. Recall of items from presentations was related to the proportion of women with higher income or education in the exposed groups. On the basis of positive exposure, 65 per cent of in-store display respondents, 45 per cent of the newspaper readers, and 26 per cent of the radio listeners remembered something from educational programs.

Based on total respondents, 27 per cent of the in-store sample, 17 per cent of the homemakers in the newspaper survey, and 8 per cent of the radio study recalled an item. These percentages indicate probable retention of food information on a citywide basis.

Homemakers prefer printed food information. The weekly food section in newspapers was most popular for consumer information. On radio, interview programs or short items repeated throughout the day were most effective. Usefulness of in-store displays depends on the proportion of women with higher socio-economic levels among shoppers. For consumer education to be effective, it must appeal to self-interest of family-centered homemakers.

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# Response of Homemakers to Food Information in Mass Media of . . . Anniston, Birmingham, Montgomery\*

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**H**ISTORICALLY, society has been more oriented toward the producer than consumer. In early years the American scene was characterized by a self-sufficient rural economy in which surpluses were sold to obtain nonfarm produced commodities. Only recently has it become possible for the farmer to feed himself and 39 other persons. The flow of population to urban areas, the growth of an affluent people with means beyond subsistence, and rise of marketing innovations such as the supermarket and refrigerated transportation have shifted attention to consumer economics.

A high percentage of food research is focused on consumer preferences, how much and what kinds of food should be produced and processed in the future, and why homemakers buy what they do. In our marketing system, consumer desires are thought to be reflected in purchase or nonpurchase. Theoretically this action is reported through the marketing system and regulates the flow of desirable goods to consumers.

However, enterprising persons in the food industry do not wait for a consumer decision. They use many different devices to influence the shopper's buying habits. Housewife boycotts in the fall of 1966 dramatized the feelings of consumers that they were victims of a conspiracy, rather than recipients of favors from a giant industry whose sole aim was to provide them food and entertainment.

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Rising food prices have caused an awareness on the part of many homemakers of the necessity for more information on how to get the most for their food dollar. Industry has become cognizant of the fact that homemakers are not the impulsive shoppers they may appear to be. If food purchasers are to perform their proper function in the marketing system, there must be a clearer understanding of its operation. It is important that industry is aware of how homemakers make food-buying decisions. Many agencies and groups have the information needed by both consumers and industry. The problem is how to close the communication gap, to benefit all concerned.

### **SCOPE, SAMPLE, AND PROCEDURES**

The purpose of the entire study was to obtain information on the scope and nature of urban homemaker response to educational programs about food in the mass media. Radio, newspapers, and in-store displays were the experimental media. Broiler-fryers were used as the test vehicle. Focal point of this report was the relationship of family and personal characteristics of homemakers to knowledge, practices, and attitudes about selected meats, and certain reactions to controlled educational presentations in various media.

Findings of these studies should enable personnel in consumer education to visualize probable audiences. Copy may be aimed at the self-interest of family-centered homemakers, and designed to aid them in food selection and preparation decisions. Results should be useful to those in marketing who wish to add to their knowledge factors related to decisions by purchasers of food for families.

Studies forming basis of this report were made in Birmingham, Montgomery, and Anniston, Alabama during a 2-year period, 1963-65. The 1960 Census lists Anniston as having a population of 33,657, Montgomery, 134,393, and Birmingham, 521,330 persons. In the Birmingham study, the sample population was randomly selected from names of shoppers in the selected retail food stores. In the other cities, a random sample was taken from city directories using groupings of three addresses. Only families of two or more were included in the group supplying completed schedules.

Major differences in survey samples were levels of income and educational background of participants. The Anniston sample had more families with incomes under \$3,000, more families with all or part of the income from nonwork sources, and more with per capita incomes under \$900. More than half the homemakers in the Birmingham sample had per capita incomes over \$1,800.

Average per capita income of survey families was about \$1,300 in Anniston, \$1,700 in Montgomery, and \$2,100 in Birmingham. Nearly 80 per cent of the homemakers in the Birmingham sample had 12 or more years of education, compared with 60 per cent in Montgomery and 37 per cent in Anniston. Data in Appendix Tables 1 and 2 give a summary of the major characteristics of the total sample by city and survey, and are an aid in explaining differences by city.

The entire study consisted of eight surveys made during a two-year period. Pre-studies in each city located appropriate media, probable populations, and, consumer habits, attitudes, and knowledge about food buying. The post-studies were made following educational presentations featuring information about broilers.

In Birmingham, the educational material was part of a broiler promotion study utilizing in-store displays. Moving balloons, colored pictures of prepared dishes, and a poster using themes of economy, high protein, and low calories of broiler meat surrounded the display. A young lady distributed folders featuring poultry recipes.

In Anniston and Montgomery, a three-weeks series of newspaper articles and radio programs presented information about broilers including nutritional value, economical source of protein, suitability for every meal and occasion, and cookery principles. Marketing facts such as production, market forms, or grade and inspection labels were also included. Recipes using poultry were given or offered in each of the five educational events.

Schedules were identical in all surveys except for added pertinent questions related to the particular media being studied. Homemakers were personally interviewed within a month after the last display, radio program, or newspaper article. About 400 schedules were taken in each survey, for a total of 3,361 respondents. A more complete description of the procedures is in the section giving findings of each media survey. Data from the Alabama samples contributed to four regional bulletins. For authors and titles, see (5,6,8,10).

## DOMINANT FACTORS IN RESPONSE PATTERNS

“Response of homemakers” as used in this report may be either negative or positive. A negative response or failure to recall an item from the educational presentations may be a result of lack of exposure, or insufficient attention to its contents. Accordingly, homemakers in each of the five post-studies were placed in three groups: Nonexposed, exposed nonresponsive, and exposed responsive. Characteristics of each group were as follows:

1. Nonexposed: Did not listen to experimental radio stations or control programs, or did not read the experimental newspapers and control articles.

2. Exposed nonresponsive: Listened to experimental radio stations and control programs, or read experimental newspapers and control sections, but did not remember any of the educational messages.

3. Exposed responsive: Listened to experimental radio stations and control programs, or read experimental newspapers and control sections. Recalled one or more items from the educational presentations.

Other studies by the author have shown per capita income and education of the homemaker to be the characteristics most closely associated with the purchase of foods (1,2,3,4). In analyzing this study it became obvious that much response of the homemaker to mass media was also related to these factors, along with their interrelationships to other family and personal characteristics, Tables 1 and 2.

“Income” in this study refers only to “per capita income” at four levels: low, average, high, and liberal. Relationship of per capita income to response is reported as “increase or decrease” in income rather than by each component part such as education of the homemaker, annual income, larger scores, or smaller families.

Similarly, “education of the homemaker” is reported at four levels: grade school, some high school, high school graduate, and beyond high school. Response with “increase or decrease” in education refers to the interrelated characteristics shown in Tables 1 and 2, although every item is not necessarily involved. Inclusion of the package of items contributes to a more realistic picture of the homemakers in question than would have been possible by a report of each effective characteristic alone.



TABLE 1. PERCENTAGE OF HOMEMAKERS HAVING SELECTED FAMILY AND PERSONAL CHARACTERISTICS, BY PER CAPITA INCOME, 3,352 HOMEMAKERS,<sup>1</sup> THREE ALABAMA CITIES, 1963-65

Family or personal characteristic	Proportion in each per capita income group				Total with each characteristic	
	Under \$900	\$900-1,799	\$1,800-3,199	\$3,200 & over	No. <sup>2</sup>	Pct.
	Pct.	Pct.	Pct.	Pct.		
Race						
White.....	38	81	94	98	2,558	76
Negro.....	62	19	6	2	794	24
Age of homemaker, years						
Under 25.....	8	9	6	5	259	8
25-34.....	20	24	19	10	643	19
35-44.....	26	30	31	17	901	27
45-59.....	25	21	33	52	1,008	30
60 and over.....	21	16	11	16	532	16
Education of homemaker, years						
Under 9 (grade school).....	48	21	10	6	741	22
9-11 (some high school).....	30	25	15	8	690	21
12 (high school graduate).....	19	39	38	38	1,114	34
13 or more (beyond high school).....	3	15	37	48	778	23
Source of income						
Homemaker only.....	15	6	4	2	241	7
Male head of house.....	38	56	53	50	1,662	49
Homemaker and male head.....	16	22	31	39	859	26
All or part from nonwork.....	31	16	12	9	590	18
Size of household, persons						
2-3 (small family).....	39	44	63	91	1,863	55
4-5 (average family).....	28	43	33	9	1,037	31
6 or more (large family).....	33	13	4	0	452	14
Annual family income, dollars						
Under 3,000 (very low).....	70	14	0	0	742	22
3,000-4,999 (low).....	26	40	13	3	756	23
5,000-7,999 (average).....	4	41	38	30	974	29
8,000 up (high).....	0	5	49	70	880	26
Marketing knowledge score						
0-3 (low).....	48	39	32	29	1,257	37
4-5 (average).....	37	36	32	32	1,158	35
6-8 (high).....	15	25	36	39	937	28
Nutritional knowledge ranked score						
0-2 (very low).....	35	22	13	11	696	21
3 (low).....	36	30	24	22	964	29
4 (average).....	22	31	39	44	1,109	33
5 (high).....	7	17	24	23	583	17
Per cent of homemakers.....	25	31	28	16	----	100
Number of homemakers.....	851	1,039	930	532	3,352	----

<sup>1</sup> No information on annual income for nine Birmingham homemakers.

<sup>2</sup> Totals of numbers may vary as "no information" is not included.

<sup>3</sup> Some families, but less than 1 per cent.

Since virtually all food consumed by urban families must be purchased, and its major function is to nourish human beings, marketing and nutritional knowledge scoring systems were devised. The marketing knowledge score was based on correct an-

swers to questions about the shield outline used primarily by the Federal Government in meat grading; names used for the grades on meats, milk, and eggs; and the frequency with which the homemaker compared package size and price. Nutritional knowledge scores were based on correct placement of 12 foods or functions

TABLE 2. PERCENTAGE OF HOMEMAKERS HAVING SELECTED FAMILY AND PERSONAL CHARACTERISTICS, BY EDUCATION OF HOMEMAKERS, 3,325 HOMEMAKERS,<sup>1</sup> THREE ALABAMA CITIES, 1963-65

Family or personal characteristic	Proportion in each homemaker education group				Total with each characteristic	
	Under 9 yr.	9-11 yr.	12 yr.	13 yr. or more	No. <sup>2</sup>	Pct.
	Pct.	Pct.	Pct.	Pct.		
<b>Race</b>						
White.....	54	70	85	92	2,542	76
Negro.....	46	30	15	8	783	24
<b>Age of homemaker, years</b>						
Under 25.....	2	12	10	6	259	8
25-34.....	11	20	24	21	643	19
35-44.....	19	29	29	30	896	27
45-59.....	35	27	27	32	1,000	30
60 and over.....	33	12	10	11	527	16
<b>Source of income</b>						
Homemaker only.....	11	9	5	5	236	7
Male head.....	33	51	57	54	1,658	50
Homemaker and male head.....	21	22	29	29	856	26
All or part from nonwork.....	35	18	9	12	575	17
<b>Size of household, persons</b>						
2-3 (small family).....	64	50	53	55	1,847	55
4-5 (average family).....	18	31	35	36	1,026	31
6 or more (large family).....	18	19	12	9	452	14
<b>Annual income, dollars</b>						
Under 3,000 (very low).....	53	29	10	4	730	22
3,000-4,999 (low).....	29	33	20	9	742	22
5,000-7,999 (average).....	14	29	41	25	952	29
8,000 and over (high).....	4	9	29	62	885	27
<b>Per capita income, dollars</b>						
Under 900 (low).....	55	37	14	4	840	25
900-1,799 (average).....	29	37	36	20	1,026	31
1,800-3,199 (high).....	12	20	32	44	923	28
3,200 and over (liberal).....	4	6	18	32	527	16
<b>Marketing knowledge score</b>						
0-3 (low).....	53	37	36	25	1,242	37
4-5 (average).....	35	39	34	31	1,150	35
6-8 (high).....	12	24	30	44	933	28
<b>Nutritional knowledge ranked score</b>						
0-2 (very low).....	69	25	16	7	916	27
3 (low).....	25	38	27	18	887	27
4 (average).....	5	26	37	43	961	29
5 (high).....	1	11	20	32	561	17
<b>Per cent of homemakers</b> .....	22	21	34	23	.....	100
<b>Number of homemakers</b> .....	740	690	1,115	780	3,325	.....

<sup>1</sup> No information on years of education for 36 Birmingham homemakers.

<sup>2</sup> Totals of numbers may vary as "no information" is not included.

into the nutrient classes — protein, carbohydrates, fat, and vitamins. Further information on scoring may be found in the Appendix.

## RESPONSES TO FOOD INFORMATION IN THE THREE MEDIA

### Store Display

Sixteen Winn-Dixie food stores cooperated in the Birmingham study by setting up a 12-foot poultry meat display on two consecutive week ends. A three-panel poster, surrounded by moving balloons above the display, carried the themes of economy, high protein, and low calorie content of broiler meat. Three large colored pictures of prepared dishes were placed behind the display. A young lady near the exhibit gave out folders featuring poultry recipes.

Stores were paired for pre- and post-studies on the basis of low, medium, and high family income of those in the trading area as determined by the store management. The sample, randomly drawn from a list of shoppers in each store collected during a 60-day period before the survey, contained a larger number of women with more income and education than was true of random samples in the smaller cities. Only homemakers in the post-study were subjected to the controlled promotion and educational displays. Personal interviews were held with 463 respondents in the pre-study, and with 470 homemakers in the post-study. Post-study schedules were collected within two weeks following the display period. Field work was completed in August of 1963.

### Homemakers That Recalled the Display

Of the 470 homemakers in the post-study, 59 per cent did not remember the display (exposed nonresponsive). About half the women between 35 and 60 years of age, and two-thirds of those below 35 or over 60 years of age did not recall seeing the display. The remaining 41 per cent of the sample were able to mention at least one item from the exhibit — the balloons, pictures, poster, or the young lady (exposed responsive). With “increase in income” or “increase in education of the homemaker” and their associated characteristics, percentages of women that remembered the display increased from about 30 to more than 50 per cent.

Of the 192 exposed responsive homemakers, 43 mentioned two items about the display. The remaining 149 respondents were

almost evenly divided between those that recalled but one item, and those who could recall several. Homemakers under 35 years of age were likely to remember but one item. Few homemakers beyond 60 years of age remembered more than two items. Increase in the recall of several items was associated with "increase in income" level. The more responsive homemakers tended to be between 35 and 59 years of age, to have high per capita incomes, education beyond high school, small families, or high scores in nutrition and marketing knowledge.

The pictured broiler dishes and the balloons moving in the air currents each accounted for 25 per cent of the total items mentioned in the display. The attractive young lady that handed out recipes, and the mass display of broiler meat were credited with 17 and 15 per cent of the total mentions, respectively. The "message" carried by the 3 themes was responsible for 18 per cent of the items recalled.

The material had three levels, (a) attention attracting balloons and the young lady that gave out recipe leaflets, (b) actual and pictorial broiler displays designed to influence the impulsive shopper, and, (c) food information themes in display posters and recipe leaflets. Response of the 192 homemakers in the table is based on combinations of the groups mentioned. The homemaker may have mentioned several items but if all pertained to attracting attention of the shopper, these are included in the (a) group in the table.

<i>Recall of display items</i>	<i>Level</i>	<i>Per cent</i>
Attention getter only.....	a	29
Display, food information themes.....	b,c	23
Attention getter, broiler display.....	a,b	17
Pictorial and actual broiler display.....	b	15
Food information themes only.....	c	8
Attention getter, display, themes.....	a,b,c	5
Food information, attention getter.....	a c	3

Fifty four per cent of the homemakers that remembered the display mentioned attention attracting balloons or the young lady (the "a" column in the table). Sixty per cent of the respondents recalled pictures of prepared dishes or the broiler display (b column), while 39 per cent could name one or more food information items (c column). With "increase in income," percentages of women who failed to recall the themes declined from 50 per cent in the lowest income group to about 12 per cent in the higher income levels.

Homemakers that recalled the food information themes may be classified in a number of ways. The 125 women that recalled the themes comprised 27 per cent of the total sample of 470 homemakers in the post-study store display survey. They were also 65 per cent of the 192 exposed responsive homemakers that remembered something about the store display. Mention will be made of the response of such groups in the newspaper and radio surveys in order to make possible a comparison of the three media on a similar basis.

Homemakers who recalled the themes were usually between 35 and 44 years of age, had education beyond high school, or had per capita incomes over \$1,800. Of the three themes of "Stretching the Food Dollar," "High Protein Content," and "Low Calorie Content," the first theme accounted for 40 per cent of the total 223 mentions, the second for 37 per cent, and the third theme for the remaining 23 per cent. Of the 125 homemakers, 21 per cent recalled one theme, 78 per cent recalled two themes, and 1 per cent named all three. The following table gives the distribution of theme combinations most often remembered.

<i>Theme combinations</i>	<i>Per cent</i>
Stretching food dollar, protein content.....	38
Protein content, low calories.....	23
Stretching food dollar, low calories.....	17
Stretching food dollar only.....	15
High protein content only.....	4
Low calorie content only.....	2
All three themes.....	1

From promotional and educational viewpoints, the recipe leaflet was the most effective part of the study. It was designed to give information about broilers in a form easily understood. The 12 poultry recipes had been tested by the Department of Foods and Nutrition of the School of Home Economics, and the folder had the personal contact important in transferring the recipe into actual use. Of the 192 women who remembered the display, 27 per cent had tried one recipe, 16 per cent had used 2, and 3 per cent had used 3 or more. About half, or 54 per cent, had not used any of the recipes before being interviewed.

About half of each age of the homemaker classification up to age 60 had used a recipe, but only one-fifth of those older. Percentages of those who had not tried a recipe declined from about 80 per cent among grade school educated homemakers to 42 per

cent of those with education beyond high school. No homemaker with education of less than 12 years had tried three or more recipes. A more detailed report of this study may be found in the bulletins by Van de Mark (9,10).

### Newspaper Articles

Previous research in the Southern Food Marketing Research Projects have shown that newspapers are widely used by homemakers in making food-buying decisions (1,7). Emphasis in these studies was on foods purchased as the result of printed material that came into the home. The concern of the present study is the probable coverage of information placed in newspapers, and types of homemakers most likely to use such facts in making food-buying decisions.

In the Anniston surveys, 18 per cent of the 407 homemakers in the study did not read a daily newspaper. The remaining 82 per cent read the local newspaper, the *Anniston Star*. In Montgomery, 11 per cent of the 403 homemakers in the study did not read the experimental newspaper. The *Montgomery Advertiser*, used as the experimental newspaper, was the morning daily, and shared the Sunday issue with the *Alabama Journal*, the afternoon paper. It was necessary to include readers of the *Journal* although they may have seen only the Sunday articles.

Six information articles were placed in the *Star* and the *Advertiser*, two per week for three consecutive weeks. In Anniston, four articles were on the Saturday farm page under the county home agent's byline, a regular feature. Two were placed in the society section of the Sunday paper and referred to the home agent's office. In Montgomery, three articles appeared in the Thursday food section, two on Sunday and one on the Wednesday society pages. Two articles mentioned the local Cooperative Extension Service office.

Articles varied from 15 to 35 column inches. Three articles in Anniston and four in Montgomery contained recipes. The sequence of the articles differed in the two cities, but each covered the same information about broilers. The food information articles occupied from 6 to 19 per cent of the page. Analysis of pages in the *Advertiser* containing the articles showed there was seldom a major competitor for reader's attention. Other page parts of the

society section were usually occupied by nonfood or single food advertisements. The two articles in the food section were competitive with a featured person and recipe, other food news, prices, and editorials.

### **Exposed and Nonexposed Respondents**

Four approaches were used in analysis of the newspaper surveys; (1) total two-city sample of 810 respondents, (2) the 691 homemakers with access to a daily newspaper, (3) the subsample of 309 women who usually read the experimental newspapers and sections of the paper where test articles were placed, and, (4) the 140 exposed responsive homemakers.

Of the 810 homemakers in the total two-city sample, 117 had no newspaper or did not read the experimental media; 72 in An-niston and 45 in Montgomery. In the entire sample of 810 women, 17 per cent recalled at least one item from the articles. Of the 691 women with access to a daily newspaper, 20 per cent had remembered something from the articles. However, if the 309 home-makers who read both the experimental newspapers and the sections in which articles were placed are the subsample, percentage of recall was 45 per cent. In the store display survey, two-thirds of the exposed women recalled something about the exhibit, while slightly less than half the exposed homemakers in the newspaper study were able to do so.

Of the 691 women with access to a daily newspaper, 55 per cent were not regular readers of the experimental newspapers (non-exposed). Twenty-five per cent did not remember the articles although they were readers of the experimental newspapers (exposed nonresponsive). A fourth of the 182 homemakers who thought they had seen the articles were unable to mention any item, and could not qualify for the responsive group. The family characteristics of these women were very similar to those of the remaining 140 homemakers who could describe the information in the articles. Twenty per cent of the 691 homemakers that read a daily newspaper constituted the exposed responsive portion of the two-city sample.

By city there was little difference in numbers of women who recalled items from the articles, but there was some difference in the coverage:

<i>Coverage of newspaper articles</i>	<i>Anniston Pct.</i>	<i>Montgomery Pct.</i>
Exposed—read test newspaper, parts		
Recalled item.....	46	45
No recall of item.....	54	55
Nonexposed		
Did not read test newspaper, parts.....	71	85
No daily newspaper.....	29	15
Total sample		
Nonexposed.....	44	51
No newspaper.....	18	11
Exposed nonresponsive.....	21	21
Exposed responsive.....	17	17

Tables 3 and 4 show characteristics of homemakers in each city who were exposed to the experimental material in newspapers and usually read parts of the paper in which the articles were placed, by response and nonresponse, as well as those not exposed. These tables are a collection of characteristics that seemed to differentiate homemakers that recalled, or could have recalled under more dramatic conditions, the educational material. A careful study of these tables should enable writers of consumer information articles to more adequately determine readership and make suitable adjustments to provide homemakers with useful news.

Selections of the characteristics were made from parallel tables of the three categories of homemakers compared with percentage distribution of the characteristics in the entire sample of 810

TABLE 3. CHARACTERISTICS OF 407 HOMEMAKERS AT THREE LEVELS OF EXPOSURE TO EDUCATIONAL ARTICLES IN NEWSPAPERS, ANNISTON, ALABAMA, 1964-65

Exposure level: newspaper surveys	Over-represented <sup>1</sup>	Under-represented <sup>2</sup>
Exposed, recalled item from articles: 72 homemakers	35-44 years of age Average per capita income High marketing score	Under 35 years of age Under 9 years education Small family size Low marketing score
Exposed nonresponsive: 85 homemakers	White homemakers 45-59 years of age Small family size High per capita income High marketing score High nutrition score	Negro homemakers 9-11 years of education Large family size Low per capita income Low marketing score Low nutrition score
Nonexposed: 250 homemakers	Low per capita income Average family size Large family size	White homemakers Small family size High marketing score

<sup>1</sup> Percentage distribution greater than total sample average in these characteristics classifications.

<sup>2</sup> Percentage distribution less than total sample average in these characteristics classifications.



TABLE 4. CHARACTERISTICS OF 403 HOMEMAKERS AT THREE LEVELS OF EXPOSURE TO EDUCATIONAL ARTICLES IN NEWSPAPERS, MONTGOMERY, ALABAMA, 1965

Exposed level: newspaper surveys	Over-represented <sup>1</sup>	Under-represented <sup>2</sup>
Exposed, recalled items from articles: 68 homemakers	White homemakers Full-time homemaker Over 12 years education High family income High per capita income High marketing score High nutrition score	Negro homemakers Under 9 years education Very low family income Low per capita income Low marketing score Low nutrition score
Exposed, nonresponsive 84 homemakers	White homemakers 45-59 years of age 12 years education Average family size High family income Average marketing score	Negro homemakers Under 35 years of age Under 9 years education Very low family income Low per capita income Low marketing score
Nonexposed: 251 homemakers	Negro homemakers Under 9 years education Low per capita income Low marketing score	White homemakers Over 9 years education High family income

<sup>1</sup> Percentage distribution greater than total sample average in these characteristics classifications.

<sup>2</sup> Percentage distribution less than total sample average in these characteristics classifications.

homemakers. For example, in Montgomery 4 per cent of the homemakers with a grade school education were in the exposed responsive column, but their proportion in the entire sample was 19 per cent. Homemakers did not necessarily have all characteristics listed, but it is possible to visualize women who more or less fit the descriptions. It is well to keep in mind the differences in level of income and education of the homemakers in each sample in the analysis.

### Who Remembered What from the Articles

Analysis of the various identifying items that were recalled from the articles showed there were differences by number and kind that could be measured with the family or personal characteristics yardstick. Among the 140 exposed responsive homemakers, half could remember one bit of information or describe a recipe to prove she had noticed the test article, a third recalled two items, while the remainder named 3 to 7 items.

These homemakers most often recalled one item only: Those under 35 years of age, those with less than 12 years of education, non-white women, and those with low per capita income. Home-

TABLE 5. PERCENTAGE OF HOMEMAKERS HAVING SELECTED FAMILY OR PERSONAL CHARACTERISTICS, BY NUMBER OF ITEMS RECALLED FROM EDUCATIONAL NEWSPAPER ARTICLES, 140 HOMEMAKERS, ANNISTON AND MONTGOMERY, ALABAMA, 1964-65

Family or personal characteristics	One	Two	Three or more	Total or average	
	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>	<i>No.</i>	<i>Pct.</i>
<i>City</i>					
Anniston.....	65	29	6	72	---
Montgomery.....	34	34	32	68	---
<i>Race</i>					
White.....	46	32	22	112	80
Negro.....	68	25	7	28	20
<i>Per capita income, dollars</i>					
Under 900.....	68	27	5	21	15
900-1,799.....	51	33	16	49	35
1,800-3,199.....	46	27	27	45	32
3,200 and over.....	40	36	24	25	18
<i>Education of homemaker, years</i>					
Under 9.....	62	29	9	21	15
9-11.....	56	36	8	36	26
12.....	42	36	22	46	33
13 and over.....	36	32	32	37	26
<i>Per cent of homemakers</i> .....	50	31	19	---	100
<i>Number of homemakers</i> .....	70	43	27	140	---

makers most likely to remember more than one item were probably between 35 and 59 years of age. Percentages of homemakers who could remember more than one item increased with greater amounts of per capita income, Table 5.

Respondents that mentioned recipes were more frequently in the "high income" levels. Of 91 mentions of recipes, 41 per cent were for "Cabbage, Apple, Chicken Casserole," most often recalled by "lower income" homemakers. "Fried Chicken Supreme" accounted for 26 per cent of the mentions, and appealed most to the "average income" homemakers. The "Lemon Broiled Chicken" recipe appeared in the Montgomery study only, but ranked third with 22 per cent. This recipe was most interesting to homemakers over 60 years of age, and those of "higher income" levels. "Picnic Chicken Delight" was mentioned 12 times, or 13 per cent of the total recipe names or descriptions. See the Appendix for cookery methods of the four recipes used in the newspaper articles. Article content mentions were as follows:

<i>Newspaper article themes recalled</i>	<i>Per cent</i>
Broilers are an economical protein source.....	22
Purpose of grade, inspection labels.....	21
Broilers suitable for all meal types.....	18
Nutritive value of broiler meat.....	17
Cookery methods of poultry.....	11
Marketing and purchase of broilers.....	11

Negro homemakers and those of "low income" characteristics more often recalled articles about grade labeling, and use of broilers in all types of meals. Economy was most interesting to older homemakers and those of "high income" levels. The relatively few young women in the exposed responsive sample most often mentioned use of broilers for every meal type.

High income homemakers most frequently recalled the nutritive value of broiler meat. Cookery methods were more appealing to younger women and those of "low income" levels. The few that recalled information about marketing broilers were almost entirely between 35 and 59 years of age, and those with education beyond high school, Table 6.

TABLE 6. PERCENTAGE OF HOMEMAKERS HAVING SELECTED FAMILY OR PERSONAL CHARACTERISTICS, BY TYPES OF FOOD INFORMATION RECALLED, NEWSPAPER SURVEY, 140 HOMEMAKERS, ANNISTON AND MONTGOMERY, ALABAMA, 1964-65

Family or personal characteristics	Econ-omy	Grade label	All meals	Nutri-tion	Meth-ods	M'kt purc.	Total or average	
	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>	<i>No.</i>	<i>Pct.</i>
Race								
White.....	22	18	17	20	10	13	143	85
Negro.....	19	35	26	4	15	0	26	15
Age of homemakers, <i>years</i>								
Under 25.....	28	27	9	9	18	9	11	6
25-34.....	17	10	28	21	17	7	29	17
35-44.....	26	20	14	14	14	12	50	30
45-49.....	15	25	14	21	8	17	52	31
60 and over.....	24	22	26	20	4	4	27	16
Education of homemaker, <i>yr.</i>								
Under 9.....	18	32	13	14	14	9	22	13
9-11.....	20	18	25	22	10	5	40	24
12.....	20	24	17	17	14	8	59	35
13 and over.....	27	15	17	15	8	18	48	28
Size of household, <i>persons</i>								
2-3.....	23	27	18	16	6	10	93	55
4-5.....	26	13	15	20	15	11	54	32
6 or more.....	9	13	27	14	23	14	22	13
Per capita income, <i>dollars</i>								
Under 900.....	16	32	32	10	10	0	19	11
900-1,799.....	19	19	21	13	14	14	63	37
1,800-3,199.....	24	19	17	24	9	7	54	32
3,200 and over.....	28	21	9	18	9	15	33	20
Marketing knowledge score								
0-3.....	19	29	22	7	16	7	31	18
4-5.....	21	24	12	21	10	12	53	37
6-8.....	24	15	21	19	10	11	75	45
Nutritional knowledge								
0-2.....	25	29	21	7	14	4	28	18
3.....	17	27	17	17	10	12	41	23
4.....	21	23	21	14	13	8	52	30
5.....	28	8	15	27	8	14	48	29
Percentage of mentions.....	22	21	18	17	11	11	---	100
Number of mentions.....	37	35	31	29	19	18	160	---

### Radio Programs

Radio programs broadcasting food information used in the surveys were of two types. Program A was six 5-minute tapes by Cooperative Extension Service Specialists in Marketing, Consumer Education, and Nutrition. Some were narrated by one person, others were interview style. Each was broadcast over an established program about 6 a.m. on Mondays and Fridays for three consecutive weeks. Broadcasts from Anniston were on Radio Station WHMA, and the Montgomery broadcasts on Radio Station WCOV. Total broadcast time in each city was 30 minutes.

In Anniston, Program B was heard at 11 p.m., Tuesdays and Thursdays of the same weeks as the taped early morning programs. It featured home agents in 10-minute live interviews. Total broadcast time was 60 minutes, or 90 minutes for both programs. Recipes that would be sent to listeners on request were mentioned on all programs. Of the 75 requests received, 40 were from within the survey area. Seven of the homemakers were later interviewed. About half the requests came in the first two weeks when listeners were asked to write in, and the remainder the third week when telephone calls were also accepted.

In Montgomery, Program A was the same as in Anniston as to time, program type, and content. Program B was of a different sort, as the radio station did not have a regular interview program. Cooperating with their policy of brevity and timeliness, nine 1-minute tapes based on the educational material were narrated by the local home agent. These were programmed about six times a day the middle three days of the broadcast weeks, a new tape each day. One-half of the releases were on the radio between 9 a.m. and 1 p.m. each day, and the remainder before 4 p.m. Total broadcast time for Program B was 64 minutes, or a total of 94 minutes for the two programs. About 70 requests were received for recipes, of which half were from within the city.

### Exposed and Nonexposed Respondents

Forty-three per cent of the 807 women in the two-city sample did not listen to the experimental radio station or to the control programs, 28 per cent had no radio or never listened to the radio, while 21 per cent were the exposed nonresponsive listeners. Eight per cent of the total sample recalled something about the informational programs (exposed responsive). Of the 235 homemakers who usually listened to the experimental stations and control pro-

grams, 26 per cent remembered an item. Coverage, by city, of the radio programs and homemaker recall is shown in the table:

<i>Coverage of radio programs</i>	<i>Anniston Pct.</i>	<i>Montgomery Pct.</i>
Exposed—listened to station, program		
No recall of items.....	79	67
Recalled items.....	21	33
Nonexposed		
Nonlistener test station, program.....	68	54
No radio, never listen.....	32	46
Total sample		
Nonlistener test station, program.....	46	40
No radio, never listen.....	21	35
Exposed nonresponsive.....	26	17
Exposed responsive.....	7	8

In both cities, exposed responsive homemakers were more likely to be nonwhite and to have high marketing scores. More detailed analysis of the degree of representation, by city, and the characteristics of four types of audiences are shown in Tables 7 and 8. Interpretation of the under and over-represented columns is on

TABLE 7. CHARACTERISTICS OF 403 HOMEMAKERS AT FOUR LEVELS OF EXPOSURE TO EDUCATIONAL PROGRAMS ON THE RADIO, ANNISTON, ALABAMA, 1964

Exposure level: radio surveys	Over-represented <sup>1</sup>	Under-represented <sup>2</sup>
Exposed, recalled item from program: 28 homemakers	Negro homemakers 45-49 years of age Under 9 years education Average family size All children 13-19 years Average per capita income High marketing score Very low nutrition score	White homemakers 25-34 years of age 9-11 years of education Small family size High per capita income Low marketing score Average nutrition score
Exposed nonresponsive: 104 homemakers	Husband supported Average family income High per capita income High marketing score Average nutrition score	Very low family income Average marketing score All children under 7 years
Does not listen to experimental station: 184 homemakers	About the same distribution as the total sample	About the same distribution as the total sample
Has no radio or does not listen: 87 homemakers	9-11 years education Children, mixed ages Low marketing score Low nutrition score	About the same distribution as the total sample

<sup>1</sup> Percentage distribution greater than total sample average in these characteristics classifications.

<sup>2</sup> Percentage distribution less than total sample average in these characteristics classifications.

TABLE 8. CHARACTERISTICS OF 404 HOMEMAKERS AT FOUR LEVELS OF EXPOSURE TO EDUCATIONAL PROGRAMS ON THE RADIO, MONTGOMERY, ALABAMA, 1965

Exposure level: radio surveys	Over-represented <sup>1</sup>	Under-represented <sup>2</sup>
Exposed, recalled item from program: 34 homemakers	Negro homemakers 35-44 years of age Large family size Children, mixed ages Two earners Low family income High marketing score	White homemakers Over 12 years education Small family size Husband supported Average family income
Exposed nonresponsive: 69 homemakers	White homemakers 35-44 years of age Small family size Liberal per capita income High nutrition score	Negro homemakers 45-59 years of age Average family size All children under 7 High per capita income Low nutrition score
Does not listen to experimental station: 162 homemakers	Negro homemakers All children under 7 Very low family income Low per capita income	White homemakers High family income
Has no radio or does not listen: 139 homemakers	White homemakers Over 12 years education High family income	Negro homemakers 9-11 years education Very low family income Low per capita income

<sup>1</sup> Percentage distribution greater than total sample average in these characteristics classifications.

<sup>2</sup> Percentage distribution less than total sample average in these characteristics classifications.

the same basis as for Tables 3 and 4. Differences in family characteristics and distribution of the respondents should be noted in each city.

In Anniston, analysis of program listening habits of the 30 exposed responsive homemakers showed that one had listened only to taped programs in the early morning. Of the remaining women, 13 had listened to the interview program, while 16 had heard both programs several times during the broadcast period. Homemakers who had heard the broadcast the week before were more likely to remember several items from the educational programs.

Of the 35 women who thought they had heard a broadcast, 5 could not remember any details. They were very similar in family characteristics to those who recalled items. In the newspaper survey, 25 per cent of those who thought they had seen the articles could not recall items. If the educational material had been presented in a more dramatic manner, or there had been some publicity, it is possible that these homemakers would have been included in the responsive group.

### Who Remembered What from the Programs on Radio

Of the 62 women who remembered something about the radio programs, one-third recalled one item, a fourth two items, while two-fifths remembered three or more aspects of the educational material. Anniston women usually mentioned one item, whereas Montgomery homemakers recalled three or more bits of information. Homemakers who could mention but one item were usually under 45 years of age, high school graduates, fulltime homemakers, or those with some or all income from nonwork sources. They also tended to have low scores in marketing and nutritional knowledge. Women who remembered several items were usually between 35 and 44 years of age, and of the "average income" group in other characteristics. The following table is based on total mentions of recalled items:

<i>Food information recalled</i>	<i>Per cent</i>
Cookery methods for poultry.....	27
Broilers suitable for all meals.....	22
Nutritive value of poultry.....	22
Broilers economical protein source.....	18
Meaning of grade, inspection labels.....	7
Marketing, purchase, storage of broiler meat.....	4

Cookery methods were most often recalled by "low income" homemakers between 45 and 59 years of age. Broilers suitable for all meals was most appealing to homemakers over 60 years old, and those with either "low" or "liberal" income levels. Nutritive value was remembered most often by those with education beyond high school, and average marketing but high nutritional knowledge scores. Economical source of protein was most important to homemakers with 12 or more years of education and "high income" level. Grade and inspection labeling information appealed to homemakers with some high school education.

Names of recipes were mentioned 27 times. "Fried Chicken Supreme" was mentioned 12 times, and appealed mostly to homemakers 45 to 59 years of age, and those with education beyond high school. "Picnic Chicken Delight" was noted by eight women, largely of high income level. "Cabbage, Apple, Chicken Casserole" was mentioned five times, mostly by women with "low income" characteristics. One recipe, "Lemon Broiled Chicken" was mentioned twice. In addition, there were 14 other recipe names used on the 1-minute tapes in Montgomery. See Appendix for names and cookery methods of all recipes.

In Montgomery, 29 homemakers not in the sample called in for recipes offered on the radio broadcasts. These women were asked special questions in order to learn more about types of homemakers that would be attracted by recipes when only titles were mentioned. Half of these respondents were between 45 and 59 years of age. Two-thirds were high school graduates. The majority of these women had 2 or 3 adults in the family, and per capita incomes over \$1,800. Nutritional knowledge scores were usually average or high. Of the recipes mailed to them, "Easy Oven Chicken," baked in aluminum foil with mushroom soup was the most appealing. This recipe had been prepared by five women before they were interviewed.

One-third of the subsample had heard the 6 a.m. broadcast at some time, but requests came as a result of the 1-minute tapes. Half the respondents had heard only the morning broadcasts, while others had heard the afternoon tapes also. Six women recalled information about cookery methods for poultry, four something about the nutritive value of broiler meat, and three remembered that chicken was suitable for any meal.

#### WHERE HOMEMAKERS LIKE TO FIND FOOD INFORMATION

Respondents in one of the Montgomery surveys were given a list of emergencies related to food for which they were to select the appropriate information source. Nearly half the homemakers felt their own experience was sufficient, as shown in the table:

<i>Information source</i>	<i>Per cent</i>
Own experience sufficient.....	42
Cook book would be consulted.....	23
Friends, church hostess, former committee.....	17
Professional home economist.....	6
Store employee, butcher at the counter.....	6
Mother or other relative.....	5
Newspaper, magazine, radio or television program.....	1

More than half the homemakers would use their own experience for a child's menu for a day, covered dish supper, refreshments for a women's gathering, or a prestige meal. About half the women would consult a friend with experience for aid with the church supper for 200 persons, or the cook book for instructions in cooking an unfamiliar meat. A third of the respondents would ask the store employee about the size of a roast to serve a dozen guests, but nearly as many would use their own experience or the



cook book. Other sources mentioned were the professional home economist for the church supper, or relatives for the preparation of the unfamiliar meat, which they often assumed to be game.

Although two-thirds of these homemakers were satisfied with their ability as food buyers, nearly all of them were open to suggestions. Printed matter, such as newspapers and magazines, accounted for more than half of the suggestions. These could be read at leisure, reread later, and clipped and stored if future need was anticipated.

In Anniston and in Montgomery, respondents were much more concerned with food buying and preparation than with nutritional aspects, storage, and the economics of food production and processing. Meal planning and food buying information were more important to Anniston homemakers. Food preparation (recipes or methods) was more interesting to Montgomery homemakers with their higher levels of income and education. The 900 homemakers who had access to a daily paper in these cities gave 1,500 suggestions of information they would like to see in the food section, grouped as follows:

<i>Information desired in food section</i>	<i>Per cent</i>
Food preparation, recipes, methods.....	38
Meal planning, food buying.....	35
Nutrition information, diet plans.....	20
Storage of food, miscellaneous.....	7

In the pre-studies, Anniston and Montgomery homemakers were asked what use they made of the weekly food section of the newspaper. Food store advertisements were more important to Anniston women in their choice of a food store in which to do the bulk of the weekly food shopping. About half of these respondents regularly checked food advertisements before going shopping, both for prices and for making a grocery list. Relatively few women in either city used the advertisements for menu planning. A small percentage of the women did not refer to advertisements as they shopped at the commissary; they were on restricted diets, or they bought food without regard to "specials."

The weekly food section, as presently constituted, is most useful in providing homemakers with current prices of some foods. The food section from several issues of local newspapers were analyzed for content. These sections were devoted largely to area-wide

food prices. Single food advertisements, often with price reduction coupons, occupied about a sixth of the space. Nonfood advertising, news, or syndicated columns normally occupied the remainder of the space, often as much as a fourth of the food section.

Consumer lures as news about prizes, games, or stamp coupons in, or separate from, food store advertisements occupied varying amounts, depending on the aggressiveness of the store, or the stage in the game cycle. Recipes in large dailies might occupy 5 to 10 per cent of the space around advertisements. In smaller dailies, recipes and pictures tied to a personality might occupy half a page. There was virtually no information that enabled homemakers to understand the marketing system, the operation of supply and demand in food selection, or use of nutrition principles in food purchases.

Perhaps homemakers were suggesting that food advertisers could take the task of supplying this information when they said advertisements would be more useful if stores listed new foods on shelves, how to buy and cook meat cuts, and the nutritive values of foods. They wanted more variety in advertised foods related to local needs, and better identification of advertised foods as to weight, size, brand, grade, or quality.

Homemakers felt that "specials" should have the usual as well as the "marked down" price. They resented having advertised specials turn out to be the same or higher priced, untrue advertising of "lowest prices in town," or other deceptive practices and misleading descriptions. Some women said they wanted stores to advertise foods on special that would fit into a bargain meal, perhaps with a menu or recipes. There was little criticism of space used in food advertisements for games. Some suggested that there should be more foods listed that had extra stamp coupons.

## **CHARACTERISTICS OF TARGET AUDIENCES**

### **Expected and Actual Audiences**

Homemakers in pre-studies were asked a series of questions about radio listening and newspaper reading habits. The purpose was to select the most widely used mass media outlets in each city, and to provide a control for subsequent presentations, Tables

TABLE 9. CHARACTERISTICS OF TARGET AUDIENCE IN THE PRE-STUDY SURVEY, 400 HOMEMAKERS, ANNISTON, ALABAMA, 1963

Radio and newspaper coverage <sup>1</sup>	Over-represented <sup>2</sup>	Under-represented <sup>3</sup>
No radio or newspaper: 45 homemakers	Negro homemakers Under 9 years education Large family size All children under 7 years Nonwork income Low per capita income Low marketing score Low nutrition score	Small family size All adults Children mixed ages
Radio listeners only: 27 homemakers	Negro homemakers Under 9 years education Nonwork income Low per capita income Average marketing score Low nutrition score	White homemakers Under 25 years of age Under 13 years education Average family size Husband support Over \$5000 family income Average per capita income High marketing score High nutrition score
Newspaper readers only: 130 home- makers	White homemakers Average family size High marketing score High nutrition score	Negro homemakers Small family size Adults only Low marketing score Low nutrition score
Radio listeners and newspaper readers: 198 homemakers	Small family size Adults only	Low per capita income

<sup>1</sup> Coverage by radio stations and newspapers that cooperated in the educational presentations.

<sup>2</sup> Percentage distribution greater than total sample average in these characteristics classifications.

<sup>3</sup> Percentage distribution less than total sample average in these characteristics classifications.

9 and 10. Exposure in post-studies was much more closely defined in that the respondent must not only take the daily newspaper carrying the test articles, but she must be familiar with the columnist or section of the newspaper used. Similar restrictions were placed on radio listeners.

The following table is based on homemaker groupings in Tables 3, 4, 7, 8, 9, and 10, and shows the potential and actual coverage in each city in each media. Percentages refer only to radio stations or newspapers selected for the presentation on the basis of numbers of homemakers who listened to, or read the particular media for that city.

<i>Coverage experimental media</i>	<i>Anniston Pct.</i>	<i>Montgomery Pct.</i>
Potential audience		
No radio, newspaper.....	11	17
Radio only.....	7	31
Newspaper only.....	32	21
Newspaper and radio.....	50	31
Actual newspaper audience		
Nonexposed.....	62	66
Exposed nonresponsive.....	20	20
Exposed responsive.....	18	14
Actual radio audience		
Nonexposed.....	65	75
Exposed nonresponsive.....	28	17
Exposed responsive.....	7	8

This table illustrates the difficulty in reaching an audience in the larger cities in which there will be more than one daily newspaper, a number of radio stations, and several television stations. In the smaller city there was one daily newspaper and four radio stations. Providing homemakers with consumer information would

TABLE 10. CHARACTERISTICS OF TARGET AUDIENCE IN THE PRE-STUDY SURVEY, 412 HOMEMAKERS, MONTGOMERY, ALABAMA, 1965

Radio and newspaper coverage <sup>1</sup>	Over-represented <sup>2</sup>	Under-represented <sup>3</sup>
No radio or newspaper: 67 homemakers	Negro homemakers Under 9 years education Low marketing score Low nutrition score	Over 12 years education Small family size All adults High marketing score High nutrition score
Radio listeners only: 129 homemakers	Under 25 years of age 9-11 years education Large family size All children under 7 years Husband support Average marketing score	White homemakers 45 years and over Small family size Adults only
Newspaper readers only: 87 homemakers	White homemakers Over 60 years of age Under 9 years education Small family size Adults only	35-44 years of age 12 years education Children mixed ages Husband support
Radio listeners and newspaper readers: 129 homemakers	Over 12 years education Two earners	Negro homemakers 25-34 years of age 9-11 years education Large family size Low scores

<sup>1</sup> Coverage by radio stations and newspapers that cooperated in the educational presentations.

<sup>2</sup> Percentage distribution greater than total sample average in these characteristics classifications.

<sup>3</sup> Percentage distribution less than total sample average in these characteristics classifications.

be more effective in the smaller city, especially if publicity was given to the personnel involved and the timing of the release.

### Effective Placement of Information in Newspapers

In selection of parts of the newspaper most advantageous for presentation of food information, it is well to know what sections homemakers usually read. Of the women in both cities who regularly read a daily newspaper, 82 per cent read food store advertisements, 68 per cent read the food section, 65 per cent the society page, 31 per cent the sports page, and 21 per cent the farm page. Percentages in every instance were higher in Anniston, served by one local daily paper. Reading habits of 1,300 homemakers, by city, are as follows:

<i>Reading habits, selected parts of the daily newspaper</i>	<i>Anniston Pct.</i>	<i>Montgomery Pct.</i>
Always or usually reads		
Food store advertisements.....	87	78
Food section.....	71	65
Society page.....	67	64
Sports section.....	38	26
Farm page.....	31	16

Homemakers over 45 years of age were most likely to read all parts of the newspaper. Respondents most interested in food store advertisements were those with some high school education, no male head of the house, adolescent children, or higher nutritional knowledge scores. Homemakers least interested in food store advertisements were those under 35 years of age, education beyond high school, or employed women.

The society page showed the most clear cut relationship to family and personal characteristics of homemakers. About half of those in the "low income" level usually read the society page, as compared to nine-tenths of those in the "high income" level. The most frequent readers were those with small families, or high scores in marketing and nutritional knowledge. Those least likely to read the society page were homemakers under 35 years of age, those with per capita incomes under \$1,800, less than 12 years of education, or those with low scores. These homemakers were likely to have large families, all children under 13 years of age, and the youngest child less than 6 years old. Placement of food information on the society page exclusively would limit coverage to women of higher income and education who probably already know these facts.

More than half the educational articles in Anniston were placed on the farm page under a byline of local home agents. Although only a third of the homemakers usually looked at the farm page, about the same number recalled articles as in Montgomery. The regular column by a well-known personality attracted readers to the less read parts of the paper. In such situations, the section of the paper used is of less importance than regularity of time and placement, and the authorship by a local person of established reputation.

The sports section was included to locate homemakers who scan the entire newspaper. Again the homemaker over 45 years of age with "higher income" characteristics was the major reader. Nonreaders of the sports page were similar to nonreaders of the society page. Obviously the society page and the sports page would be less desirable places to put food information if readers other than the middle aged, high income, better educated women are the target of the articles.

### Effective Use of the Radio

Homemakers did not consider radio a source of food information. For 83 per cent of the women who listened to the radio, news broadcasts and music were the most important functions. In the two cities, 67 per cent used the radio at some time. Fifty-three per cent of the homemakers listened before 9 o'clock, 24 per cent kept the radio on all day, and the remainder either listened in the late morning, or after 12 noon. "Higher income" homemakers usually listened before 9 o'clock, while those of "average" income and those with teenage children often left it on all day for "company." Differences in radio listening habits, by city, are shown in the table:

<i>Usual radio listening time</i>	<i>Anniston Pct.</i>	<i>Montgomery Pct.</i>
Before 9 a.m. ....	44	31
9-12 noon .....	7	5
Rest of day .....	8	7
All day .....	17	13
Does not listen to radio .....	24	44

A fifth of the radio audience did not consider radio a possible food information source. Given a check list, the remaining respondents were about evenly divided among those that thought discussions about food, guest interviews, or a feature study might be used to present consumer information. A program of market

tips was mentioned by very few as a suitable program. Guest interviews were most often checked by those with 12 or more years of education. Discussions about food appealed to women with small families and low nutritional scores.

Most of the radio listeners were reluctant to suggest possible program lengths. Forty per cent of those who did, thought food information programs might last 15 minutes, while 1 to 5 minutes was long enough for market tips. Results of the Montgomery survey suggest that short market tips or other information repeated several times would be more effective than longer programs. About 125 words can be put on a 1-minute tape, long enough for putting across a point with some explanations.

In Anniston, homemakers who thought they heard the early morning tapes were unable to recall an item, whereas those who heard both programs, or only the interview program, were more knowledgeable about the program content. Programs selected for the presentations were heard by more than half the women in the pre-studies. The early morning program was more familiar to "lower income" women, while the interview program appealed to women of "higher income" characteristics.

The difference in radio audiences should be taken into consideration in estimating appeal of the programs. Women who listen to a 6 a.m. program are busy getting the day's activities under way and cannot give full attention to information on the radio unless it is repeated at intervals. The 11 o'clock spot is a less hurried time for homemakers, but part of the audience may be lost to television. About half the Anniston radio listeners could give the correct time of the test program broadcasts.

## MARKETING AND NUTRITIONAL KNOWLEDGE SCORES

What do homemakers know about food grades? How many make package size-price comparisons? Scores for marketing knowledge based on these consumer aids were ranked into low, average, and high in Tables 1 and 2. See the Appendix for scoring procedures.

The grades for eggs were familiar to 83 per cent of the homemakers, and 60 per cent named "Grade A" for milk. In the total sample, 11 per cent of the respondents could name one beef grade, 14 per cent named two, 7 per cent three grades, while 1 per cent,

or 31 women, named four of the consumer grades. The remaining homemakers did not know, or they had their own version such as "A-1" or "Best."

One of the more interesting facets of the study was the confusion that existed, even among the most knowledgeable, as to the function of the grade and inspection labels used on meat. A third of the women failed to identify an outline of the shield used with Federal food grades, a third thought it was a brand name or a seal of approval, and virtually all of the remainder said it was used to show that the meat had been inspected. Scoring credit was given if inspection was mentioned, but the educational presentations clearly stated that a shield background was used with meat grades, while the inspection seal was round in form, Table 11.

If consumer grades are to be useful in decision-making, the general design of the label must be recognized, and what it signifies clearly understood. If consumers are aware that these symbols are used for their protection, that they certify that the food is wholesome, and that it may also be graded to provide them with standards of quality, they have a basis for discrimination in the market place.

TABLE 11. PERCENTAGE OF HOMEMAKERS HAVING KNOWLEDGE OF FOOD GRADES OR LABELS, BY PER CAPITA INCOME, 3,352 FAMILIES, THREE ALABAMA CITIES, 1963-65

Knowledge of food grades and labels	Proportion in each per capita income group				
	Under \$900	\$900-1,799	\$1,800-3,199	\$3,200 or more	Average
	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>
Meat grades (Prime, Choice, Good, Standard, Utility)					
One or more correct.....	10	25	44	54	33
Wrong answer <sup>1</sup> .....	41	37	31	22	32
Don't know.....	49	38	25	24	35
Meaning of shield outline					
Government inspection.....	18	35	45	44	34
Other inspection..... <sup>2</sup>	---	1	2	2	1
Meat grade.....	1	2	2	2	2
Wrong answer, don't know.....	34	33	29	31	32
Did not recall seeing symbol.....	47	29	22	21	31
<i>Number of homemakers</i> .....	851	1,039	930	532	3,352

<sup>1</sup> Homemakers were usually quite positive that only the "best" meat was purchased. Suggested grades, in order of number of mentions, were: A-1, Grade A, Excellent, Best, U.S. Certified, Premium, First Quality.

<sup>2</sup> Some families, but less than 1 per cent.



Homemakers need to know that products produced and consumed within the state may not have this protection unless the manufacturer requests it, or the food is shipped from out-of-state. If consumers know how to use label information, they can insist that all meats, poultry, butter, eggs, milk, and other protein foods, regardless of origin, should be certified to be free from disease or other conditions that would make it unfit for human consumption.

It takes a little time and effort to be a careful shopper. For example, checking package size and price under present conditions may not seem worth the effort. The question about package size-price comparison was added to the marketing knowledge score to find out how important this aspect was to homemakers. As in many other discussions of consumer behavior, use was related to increasing income and education of the homemaker. It was also apparent by level of income and education between cities, as is shown in the table:

<i>Frequency of checking size-price</i>	<i>Anniston Pct.</i>	<i>Montgomery Pct.</i>
Often checks package size with price.....	47	61
Occasionally checks size-price.....	31	15
Seldom or never checks price.....	22	24

Just as marketing knowledge scores were used to rank homemakers in their information about food grades, so questions about food nutrients ranked them in the major function of food. Twelve sources or functions were to be paired with the nutrients: Protein, carbohydrates, fat, and vitamins. Correct answers were scored at two levels, 2 and 3. Accumulated score points were ranked 0 to 5. A perfect score was 36 points, and a score of 5 included 30 to 36 points. See Appendix for scoring procedures.

With "increase in education or income" marketing and nutritional knowledge scores tended to rise, Tables 1 and 2. This association extended to the individual items. With more education or income, percentages of correct answers in the identification of the major nutrients in these foods also increased: Bread, chicken, potatoes, cantaloupe, and cottage cheese, Table 12.

The greatest misunderstanding of the function or source of the nutrients was that of placing the carbohydrate foods, bread and potatoes, in the fat column, and in not recognizing the functions of fat in furnishing concentrated energy. In spite of soft drink advertising, many homemakers did not pair carbohydrates with quick energy. Homemakers say they try to give their families

TABLE 12. PERCENTAGE OF HOMEMAKERS, BY FUNCTIONS OR SOURCE OF NUTRIENTS AND EDUCATION OF HOMEMAKERS, 3,325 FAMILIES,<sup>1</sup> THREE ALABAMA CITIES, 1963-65

Function or source of nutrients— correct answers	Proportion in each education of homemaker, group				Average
	Under 9 yr.	9- 11 yr.	12 yr.	13 yr. or more	
	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>	
General good health-protein, vitamins.....	89	94	96	96	94
Bacon-protein, fat.....	86	95	85	93	93
Cottage cheese-protein, vitamins.....	69	78	82	87	79
Cantaloupe-carbohydrates, vitamins.....	68	79	83	88	80
Chicken-protein, vitamins.....	64	71	85	93	79
Pecans-protein, fat.....	79	82	83	88	83
Growth and repair-protein, vitamins.....	76	83	80	82	80
Tomatoes-vitamins.....	58	65	72	83	70
Potatoes-carbohydrates, vitamins.....	36	48	60	77	56
Bread-carbohydrates, vitamins.....	31	42	56	74	51
Quick energy-carbohydrates.....	34	33	45	59	41
Concentrated energy-fat.....	14	18	23	26	21
<i>Per cent of homemakers</i> .....	22	21	34	23	---
<i>Number of homemakers</i> .....	740	689	1,116	780	3,325

<sup>1</sup> No information on education of homemaker, 36 Birmingham homemakers.

“balanced meals,” but the nutritionist and the homemakers do not plan meals in the same way. Studies need to be made to reach a common understanding of methods used by homemakers in organizing meal components, in order that homemakers can be motivated to effectively use nutritional principles.

Homemakers said that family preferences were a major factor in food purchases. Those of “higher income” usually mentioned quality or variety first. “Lower income” women mentioned price or “specials” as the most important factor, followed by family preference. Marketing aids or nutritional values might be mentioned second or third by the more highly educated respondents. Homemakers recognized that placing nutritious food on the table was of no avail if it were not eaten by family members. Hence, all family members need food information when many choose snack food or meals away from home as part of the daily intake.

### CONSUMERS NEED MARKETING INFORMATION, TOO!

Other segments of the food marketing system have access to many sources of information that enable informed decisions. Most homemakers have learned to buy food through a trial and error

process, largely after marriage. By the time they have developed a store of information, their major food purchasing days are over. Older homemakers must learn to buy food for two elderly persons on a limited income, often with health restrictions as well. Many homemakers are not aware of persons and agencies equipped to help them with changing problems of food buying over the family cycle, or they are not accustomed to asking for outside help from professional persons.

Findings of this study point up some of the major problems in consumer education, such as the effect of income and education on the habits and practices of homemakers, on their access to information, and their interest in collecting or using such information presented in an impersonal manner. One of the more difficult aspects of consumer education is to fit information to the needs of an audience at the time when there is active interest in a solution. Organization of this report is an attempt to analyze major audiences in each media; who they are, what they noticed and remembered, and what might be done to make future presentation attractive to homemakers with certain measurable characteristics.

By placing homemakers in four major groups such as per capita income: low, average, high, and liberal; or education of the homemaker: grade school, some high school, high school graduate, or beyond high school, it may be possible to provide some guidelines for consumer education utilizing information in this report. For practical purposes, there is little difference between homemakers with per capita income above \$1,800. Similarly, homemakers with some or all of high school may be placed in one group. For the purpose of consumer education, homemakers may be grouped into: (1) those with education beyond high school and/or per capita income over \$1,800, (2) those with some or all of high school education and/or per capita income between \$900 and \$1,800, and, (3) those with grade school education and/or per capita income under \$900.

1. The responsive homemakers in these studies were primarily of upper socio-economic level, probably reinforcing previous knowledge rather than acquiring new. These women can be supplied with information through any of the mass media studied. They have sufficient food money to shop carefully or impulsively, as they wish, and to play the role of "sovereign" in the market place. It is this group that formed the backbone of the house-

wives' boycotts, and will form the nucleus of any consumer protection organization.

2. The second group is composed of the "average" homemakers who form the mass of the food buying consumers. These women are usually between 25 and 45 years of age, they have families with one or more children, enough income for necessities, and they may be employed. These homemakers are family-centered, and consumer information must be supplied to them in a manner that will appeal to their desire to do the most for their families. They do not have the leisure or the educational level to want to know about "supply and demand" but the practice of the principles is well known to them.

This mass consumer presents the greatest challenge to the food industry and to agencies having information needed by homemakers. The choice of media is of less concern than the necessity for professionals to make the information pertinent to the homemaker and her problems. The total cost of the weekly food bill is often more important than the nutritional values of the food. Whether the family will eat it is of greater influence than what the homemaker knows about proteins or the Basic Four. Not only the homemaker but family members also need to be considered in providing consumer information, if habits and practices are to be improved through mass media methods.

3. The third group was least receptive to the educational material, although they were most in need of assistance to enable them to get the most value for their food dollars. The young homemaker, the poor, and the elderly were not exposed or they were not interested. The response of Negro homemakers to the radio programs, especially their interest in grade labeling, suggests that with fully structured programs and regular schedules this media might be used effectively. For those with limited resources, the personal approach will probably be necessary.

Consumer education requires two-way communication. It is the responsibility of the informer to select the facts that will enable the homemaker to make wise choices, and to utilize the media that best fits the audience. Homemakers must be willing to learn about improved buying habits, and alter practices to provide their families with better nutrition at the least cost in line with their resources.

Homemakers should be aware of the methods used by the food marketing system, and be able to use such facts in effective selections that signal their desires. The food industry can profit by accepting intelligent consumer demands, and learning how homemakers of various types approach food-buying decisions. More efficient food marketing should result from purposeful communication among the components.

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**APPENDIX**

**Marketing Knowledge Scoring**

<i>Item</i>	<i>Score Each</i>	<i>Points Maximum</i>
Symbol identification (shield outline)		
U.S. Government or other inspection.....	1	
Grades of meat.....	1	1
Labels of various foods.....	1	
Food where find symbol		
Fresh meat, poultry.....	1	
Canned fruits, vegetables, juices.....	1	1
Labels of foods containing meat.....	1	
Egg grades		
Four letters correct.....	2	2
One to three letters correct.....	1	
Meat grades		
Three to five grades correct.....	2	2
One or two grades correct.....	1	
Milk grade		
Grade A.....	2	2
Compares package size with price		
Often, occasionally.....	1	1
Total cumulative points.....		9

**Nutritional Knowledge Scoring**

<i>Function or source of nutrients</i>	<i>Score 3</i>	<i>Score 2</i>
General good health.....	Protein	Vitamins
Bacon.....	Fat	Protein
Cottage cheese.....	Protein	Vitamins
Cantaloupe.....	Vitamins	Carbohydrates
Chicken.....	Protein	Vitamins
Pecans.....	Fat	Protein
Growth and repair.....	Protein	Vitamins
Tomatoes.....	Vitamins	.....
Potatoes.....	Carbohydrates	Vitamins
Bread.....	Carbohydrates	Vitamins
Quick energy.....	Carbohydrates	.....
Concentrated energy.....	Fat	.....

*Ranked scores*

- 0-2
- 3
- 4
- 5

*Total score*

- 0-19
- 20-24
- 25-29
- 30-36

**Poultry Recipes**

*Baked*

- Baked Chicken with Peaches
- Cabbage, Apple, Chicken Casserole
- Chicken Pie
- Chick-n-Rice Bake
- Corn Crisp Chicken
- Country Captain
- Easy Oven Chicken

*Two Methods*

- Fried Chicken Supreme
- Picnic Chicken Delight
- Waikiki Chicken

*Cooked Chicken*

- Chicken Curry
- Chicken Pie
- Chicken Loaf
- Chicken Tetrazzini
- Crunchy Party Chicken

*Stew*

- Brunswick Stew

*Broiled*

- Lemon Broiled Chicken
- Barbecued Chicken



APPENDIX TABLE 1. PERCENTAGE OF 3,361 HOMEMAKERS HAVING SELECTED FAMILY AND PERSONAL CHARACTERISTICS, EIGHT SURVEYS, THREE ALABAMA CITIES, 1963-65

Family or personal characteristics	Pre-study			Post-study				Average	
	Anniston	Montgomery	Birmingham	Anniston		Montgomery			Birmingham
	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>	<i>Rad.</i>	<i>Nsp.</i>	<i>Rad.</i>	<i>Nsp.</i>		<i>Pct.</i>
<i>Age of homemaker, years</i>									
Under 25.....	8	8	5	8	10	9	11	3	8
25-34.....	21	20	16	19	21	22	23	13	19
34-44.....	30	28	28	26	24	25	25	29	27
45-59.....	26	26	36	29	29	28	27	38	30
60 and over.....	15	18	15	18	16	16	14	17	16
<i>Education of homemaker, years</i>									
Under 9 (grade school).....	30	18	10	38	34	24	19	10	22
9-11 (some high school).....	30	20	12	28	27	22	18	10	21
12 (high school graduate).....	31	37	44	20	25	27	36	44	34
13 or more (beyond high school).....	9	25	34	14	14	27	27	36	23
<i>Per capita income, dollars</i>									
Under 900 (low).....	37	22	12	43	35	28	22	9	25
900-1,799 (average).....	36	33	32	27	32	29	29	30	31
1,800-3,199 (high).....	17	28	34	18	24	27	31	40	28
3,200 and over (liberal).....	10	17	22	12	9	16	18	21	16
<i>Number of homemakers</i> .....	400	412	463	402	407	404	403	470	3,361

APPENDIX TABLE 2. PERCENTAGE OF 3,361 HOMEMAKERS HAVING SELECTED FAMILY AND PERSONAL CHARACTERISTICS, EIGHT SURVEYS, THREE ALABAMA CITIES, 1963-65

Family or personal characteristic	Pre-study			Post-study				Average	
	Anniston	Montgomery	Birmingham	Anniston		Montgomery			Birmingham
	Pct.	Pct.	Pct.	Rad.	Nsp.	Rad.	Nsp.		Pct.
Size of household, <i>persons</i>									
2-3 (small family).....	57	50	59	56	59	52	51	61	55
4-5 (average family).....	29	34	32	29	27	34	31	32	31
6 and over (large family).....	14	16	9	15	14	14	18	7	14
Income source									
Male head.....	51	50	59	43	46	43	44	57	50
Male head and homemaker.....	22	27	26	24	24	31	28	24	25
Nonwork source, or homemakers only.....	27	23	15	33	30	26	28	19	25
Marketing knowledge score									
0-3 (low).....	42	43	45	34	28	31	30	43	37
4-5 (average).....	37	34	25	39	41	37	36	29	35
6-8 (high).....	21	23	30	27	31	32	34	28	28
Nutritional knowledge score									
Under 3 (very low).....	40	19	19	12	28	22	15	13	21
3 (low).....	24	28	22	55	26	25	27	25	29
4 (average).....	17	35	41	30	27	33	42	37	33
5 (high).....	19	18	18	3	19	20	16	25	17
<i>Number of homemakers</i> .....	400	412	463	402	407	404	403	470	3,361