

WHO BUYS CANNED SARDINES,

AND WHY?

U. S. Department of the Interior
Fish and Wildlife Service

Bureau of Commercial Fisheries
Washington 25, D. C.



Circular 90

United States Department of the Interior, Fred A. Seaton, Secretary
Fish and Wildlife Service, Arnie J. Suomela, Commissioner
Bureau of Commercial Fisheries, Donald L. McKernan, Director

WHO BUYS CANNED SARDINES, AND WHY?

A Study of Consumer Motivation in Three Cities

Prepared in the Branch of Economics



United States Fish and Wildlife Service

Circular 90

Washington, D. C. : June 1960

ABSTRACT

This report contains the results of a marketing research project directed toward the improvement of promotional and merchandising techniques for the marketing of canned sardines. The factors which influence consumers to buy California and Maine sardines are examined in detail. Special emphasis is placed upon motivational analysis using psychological techniques in probing for information as to why consumers are attracted to canned fishery products with certain styles of pack, taste, color, or other attributes. The relationships of race and income to the product image are given particular attention.

PREFACE

While the trend of total canned fish production in the United States has been generally upward since the end of World War II, the fortunes of the various canned fish industries have been diverse. Canned tuna, the leader, has been breaking production records but has been encountering increasing competition from Japanese imports. An acute supply problem grips the canned salmon industry and the marketing problems mainly ensue from a decline in the salmon runs. Canned sardines, and particularly the California sardine industry, is confronted with both supply problems and the loss of traditional markets.

Marketing research has something to offer the canned fish industries. Indeed, the most apparent common denominator in the marketing problems of all these industries is their need for better merchandising methods.

The prime objective of this market research study is to aid the domestic canned fish industries to expand markets for their products. Results and findings of the study are especially directed toward the improvement of promotional and merchandising techniques. However, the study has also a direct bearing upon other important aspects of canned fish marketing such as the adaptation of the product to meet specific consumer preferences.

This report describes the results of a survey of what induces the consumer to buy canned sardines (or the motivational factors which influence the buying habits of household consumers of canned sardines). The survey also examines the buying habits of household consumers of canned salmon and tuna. Separate reports have been issued for those products.

The study was made by the A. J. Wood Research Corporation of Philadelphia, Pa., under contract to the United States Bureau of Commercial Fisheries. It was financed with funds made available under the Saltonstall-Kennedy Act, approved July 1, 1954 (68 Stat. 376).

The survey was conducted under the general supervision of Walter H. Stolting, Chief, Branch of Economics. Preliminary statistical and planning work was done by Adolph Scolnick, Analytical Statistician. The report was edited and adapted for publication by Alton T. Murray and Frans L. Widerstrom, Jr., Economists.

TABLE OF CONTENTS

	Page
Introduction	1
Consumer preferences for canned sardines:	2
Use of canned sardines	2
Sardine pack preference	3
Sardine size preference	3
Domestic versus imported sardines	4
Buying habits	4
Serving habits	5
Interest in sardine-paste spread	6
Recipe sources	6
Ordering sardines in public eating places	6
Reasons for not using or seldom using canned sardines	6
Canned sardine advertising	6
Personal characteristics	7
The sardine can:	7
Size of can	7
Cans with and without keys	8
Sardine can illustrations	8
Maine versus California sardines:	8
Preferences	8
Appearance of California sardines	8
Appearance of Maine sardines	8
Comparison of Maine and California sardine users	8
Race, income, and sardine use:	9
Objective	9
Method	9
Consumer preferences	9
Use of canned fish	9
Consumer product attitudes	10
Orangeburg County results:	10
Purpose	10
Use of canned sardines	10
Sardine pack preference	10
Sardine size preference	11
Domestic versus imported sardines	11
Serving habits	11
Maine versus California sardines	11
Motivational analysis:	12
Determining the product image	12
Measuring the motivational difference	13
Index of possible market gain	13
Observations based on computed indexes of possible market gain	13
Suggestions	13
Tables	15

TABLE OF CONTENTS - Continued

	Page
Statistical tables:	17
Use of canned sardines:	17
Table 1.--Which kind of canned fish do you like best? ...	17
Table 2.--Have you served sardines during the last 12 months?	17
Table 3.--During the past four weeks, about how often did you serve canned sardines?	18
Table 4.--Who in your family eats sardines?	18
Sardine pack preference:	19
Table 5.--Which sardine pack do you usually buy?	19
Table 6.--Which kind (pack) do you buy occasionally?	19
Table 7.--Why do you use the other kinds (packs)?	20
Table 8.--Which sardine oil pack do you consider to be the best quality?	20
Table 9.--Why do you use sardines packed in that preparation?	21
Sardine size preference:	22
Table 10.--Do you prefer large or small sardines?	22
Table 11.--Why do you prefer small sardines?	22
Table 12.--About how many inches long are the sardines you prefer?	23
Domestic versus imported sardines:	24
Table 13.--Do you use only domestic or only imported sardines or both?	24
Table 14.--Why do you buy only domestic or only imported sardines?	24
Table 15.--Do you think domestic sardines are better, about the same, or not as good as imported sardines?	25
Table 16.--If domestic sardines had their bones and skin removed, would you . . . ?	25
Buying habits:	26
Table 17.--Was your most recent sardine purchase planned before you went to the store or did you decide to buy them while in the store?	26
Table 18.--What made you decide to buy them while in the store?	26
Serving habits:	27
Table 19.--Do you sometimes serve sardines for dinner? ..	27
Table 20.--Why don't you serve sardines for dinner?	27
Table 21.--How many small sardines do you serve per adult for a snack?	28
Table 22.--How many small sardines do you serve per adult for a meal?	28
Table 23.--Were sardines served in your home when you were a child?	29
Table 24.--What would induce you to use more sardines? ..	29

TABLE OF CONTENTS - Continued

	Page
Statistical tables: - Continued	
Interest in sardine paste spread:	30
Table 25.--If sardines were processed into a paste spread, do you think you would use such a product . . . ?	30
Recipe sources:	31
Table 26.--Where have you obtained sardine recipes or information?	31
Ordering sardines in public eating places:	32
Table 27.--Have you ordered sardines in a public eating place during the past two months?	32
Table 28.--Other than yourself, has anyone eating with you ordered sardines in a public eating place in the past two months?	32
Reasons for not using or seldom using canned sardines:	33
Table 29.--Is there any special reason why you do not serve sardines?	33
Table 30.--Did you ever use sardines in the past?	33
Table 31.--How long ago did you serve them?	34
Table 32.--Why did you stop serving sardines?	34
Table 33.--Why do you use sardines so seldom?	35
Table 34.--Did you use sardines more often in the past?	35
Table 35.--Does anyone living in the house like sardines?	36
Table 36.--Why have you reduced the number of times you serve sardines?	36
Canned sardine advertising:	37
Table 37.--Have you seen or heard any advertising for canned sardines?	37
Table 38.--Where did you see or hear advertising for canned sardines?	37
Sardine can:	38
Table 39.--Do you buy sardines packed in the large or small can?	38
Table 40.--How many small sardines would you like to find in the 4-ounce can?	38
Table 41.--Do you prefer a sardine can with or without a key?	39
Table 42.--How much more would you pay for a can with a key?	39
Table 43.--Which of these scenes on a sardine can is more attractive?	40

TABLE OF CONTENTS - Continued

	Page
Statistical tables: - Continued	
Maine versus California sardines:	41
Table 44.--Where do the domestic sardines you buy usually come from?	41
Table 45.--Does the appearance of California sardines please you when you open the can?	41
Table 46.--In what way do California sardines not please you?	42
Table 47.--Does the appearance of Maine sardines please you when you open the can?	42
Table 48.--Comparison of Maine and California sardine users in Detroit	43
Race, income and sardine use:	44
Table 49.--Consumer preferences, by race and income	44
Table 50.--Race, income, and consumer attitude toward canned sardines	45
Table 51.--Race, income, and use of canned fish	45
Characteristics:	46
Table 52.--Selected socio-economic characteristics of households, homemakers	46
Appendix:	47
Survey methods:	47
Questionnaire	47
Sample design	47
Field work	50
Data processing procedures	50
Sampling errors	51
Questionnaire	55

WHO BUYS CANNED SARDINES, AND WHY?

INTRODUCTION

In market research it is important to know how many people do what. It is even more important to know why.

The methodology of supplying answers to how many people do what is well established. The first part of this report is concerned with the interpretation of the results of household consumers' responses to questions on what buying habits, serving habits, etc., they have. In effect, this interpretation amounts to deciding how many household consumers prefer particular attributes of canned sardines in relation to other groups with different preferences. The selection of a random sample representative of all the householders in the areas surveyed was determined by statistical methods in common use. Also included in the first section of the report is the analysis of consumer responses to the use of two related motivational research techniques--the open question and the probe. These techniques represent an initial step in the process of learning the why of consumer buying habits.

While the study of marketing behavior over several decades has developed a number of methods of investigating the why of consumer habits, motivational research is relatively new. Practitioners in the field of motivational research sometimes disagree as to the emphasis to be placed upon the special techniques drawn from any one of the social sciences such as statistics, psychology, economics, and sociology. The principal techniques of motivational research in the field of consumer marketing behavior, however, are derived from psychology.

The second part of this report is concerned with the results of the motivational analysis of the marketing behavior of con-

sumers of canned sardines based on other research techniques. Motivational market surveys require the services of a staff trained to interrogate consumers with special probing techniques, and a highly skilled research staff is needed to interpret the results of the recorded responses. Moreover, motivational research studies are much more expensive than consumer surveys using conventional statistical methods. This situation has a direct bearing upon the size of the motivational research survey which can be made for a fixed sum available for consumer research. As a compromise between the maximum population coverage to find out how many people do what with canned fish and the limitation imposed by the cost of motivational research into why they used it, three urban markets were selected for study instead of a national survey.

The populations under study consisted of households within the urbanized areas of Boston, Massachusetts; Detroit, Michigan; and Birmingham, Alabama. In addition, Negro households located in the rural areas of Orangeburg County, South Carolina were surveyed. Negro households in rural areas of the southern states represent an important market for canned sardines. The Orangeburg County results will be summarized in this report and will show the cross-classification of various marketing data by race for Birmingham and Detroit. A western city was not included in the survey because of a lack of funds to cover the cost of interviews. Area probability samples were selected to represent the populations covered and interviews were completed with the homemaker or person mainly responsible for planning the meals as follows:

Area	Number of Interviews
Birmingham	585
Boston	553
Detroit	609
Orangeburg County	200

The interviews for this study were made between March 13, 1959 and May 4, 1959.

Specifically, the survey was designed to elicit detailed answers to such questions as : why consumers decided to buy or not to buy certain canned fishery items; whether or not shoppers for canned fish and shellfish were motivated by advertisements or labels; the influence of income on buying habits and other marketing factors. Then there were the how-many-people-do-what questions to find out consumers' preferences for size of can; type of package; kind of oil in which fish are canned; color; texture; and other characteristics of canned fishery products.

CONSUMER PREFERENCES FOR CANNED SARDINES ^{1/}

Use of Canned Sardines

Sardines are the least popular canned fish in the three urban areas of Birmingham, Boston, and Detroit. Only about 5 percent of all respondents preferred sardines over tuna and salmon.

With regard to actual use, the survey revealed that 38 percent of the households in Birmingham, 47 percent in Boston, and 40 percent in Detroit had not used canned sardines in the 12 months prior to the interview. For purposes of statistical analysis, these households were classified as "never users" of canned sardines. Of those who had used canned sardines in the 12 months prior to the interview, 47 percent in Birmingham, 48 percent in Boston, and 52 percent in Detroit had used it in the 4 weeks immediately prior to the interview. These latter households were classified as "sardine users." Those who had used canned sardines in the past 12 months but not within the past 4 weeks were termed "sporadic users."

^{1/} Tables containing data referred to in this section and the next three sections are given on pages 17-46 and an explanation of the tables on page 15.

The sardine users were further divided into light and heavy user groups. The "light users" are those who used sardines one or two times in the 4 weeks immediately prior to the interview and the "heavy users" as those who had served them three times or more in the period. The distribution of these user groups in the three cities is summarized in the following table. (Note: The reader should keep in mind while reading the following text and table that "sardine users" are, by definition, all respondents representing households who had used canned sardines within the past 4 weeks. The term, therefore, includes both light and heavy users.)

DISTRIBUTION OF SARDINE USER GROUPS, BY FREQUENCY OF USE, BIRMINGHAM, BOSTON, AND DETROIT, 1959

Classification of user groups	All respondents		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
Never users	38	48	40
Sporadic users	33	27	28
Light users ^{1/}	15	15	20
Heavy users ^{1/}	14	10	12
Total	100	100	100

^{1/} Referred to in text as "sardine users."

Percentage of respondents

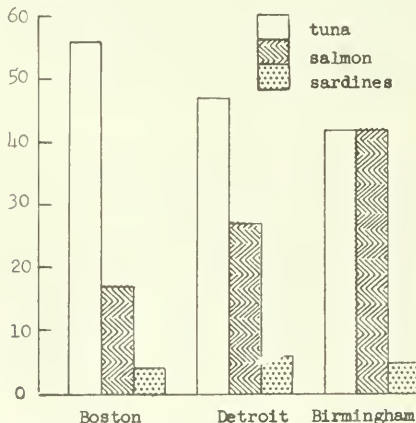


FIGURE I.--CONSUMER PREFERENCES FOR CANNED TUNA, CANNED SALMON, CANNED SARDINES

The frequency of serving canned sardines in the past 4 weeks varied somewhat among the three cities. The sardine-user households in Birmingham averaged 2.7 servings per household compared to 2.4 in both Boston and Detroit.

Sardines were eaten by all family members in 62 percent of the sardine-user households in Birmingham, 36 percent in Boston, and 55 percent in Detroit.

Sardine Pack Preference

Sardine users in Boston usually buy sardines packed in olive oil. Sixty-seven percent of the respondents bought the olive-oil pack. Sardines packed in vegetable oil were bought by only 18 percent; tomato sauce, by 5 percent; sild (herring) oil, by 9 percent; and mustard sauce or natural pack by 1 percent each.

Sardines packed in vegetable oil are the most popular in both Birmingham and Detroit. Of the sardine users in Birmingham, 46 percent usually bought sardines packed in vegetable oil; 22 percent, olive oil; 16 percent, natural oil; 7 percent tomato sauce; 4 percent mustard sauce and 2 percent sild oil. The percentages for Detroit are as follows: vegetable oil, 57 percent; olive oil, 29 percent; natural oil, tomato sauce, and mustard sauce, 5 percent each; and sild oil, 4 percent.

Loyalty to the preferred preparation is strongest in Boston where 83 percent of the sardine users remain consistent buyers of the same oil or sauce. In Detroit, 69 percent of the users adhered to their choice of preparation. The proportion of these users in Birmingham is 52 percent. Most of the users in Birmingham and Detroit who sometimes buy another preparation change either to tomato sauce (35 percent and 34 percent, respectively) or to mustard sauce (33 percent and 31 percent, respectively). Those who switched said they did so mainly because they "like variety."

[An important technique used in motivational research is the "open question"--one which seeks the why of consumer behavior. Such questions permit the respondent to reply freely and do not restrict his choice of answers to the

limited categories imposed by the direct or closed type. If the respondent's reply is meaningful it gives a reason as to why he thinks or feels the way he does. A response of the type "just because I like it" would not be considered adequate and it would be the responsibility of the interviewer to focus the respondent on more specific areas in which to answer. The focusing process is known as probing; it is not used in instances where the initial reply is deemed satisfactory by the specially-trained interviewer. In cases where probing is used, it must be handled skillfully so as not to bias the respondent's answer.]

The first open question asked of sardine users sought the reasons for their sardine pack or preparation choices. An analysis of the responses of consumers indicates that there was some tendency for those who buy sardines packed in olive oil to mention as reasons "better taste," "more digestible," or "better for health." Other respondents in this category alluded to preferences by husbands or children for the olive-oil pack. On the other hand, there was a tendency for those who bought sardines prepared in vegetable oil to mention "lower price" more often than those who used other sardine packs.

In all three cities, sardines packed in olive oil were considered to be of the best quality--by 52 percent in Birmingham, 65 percent in Boston, and 45 percent in Detroit. Soybean oil was considered the highest quality pack by 28 percent of the Detroit users, but was mentioned by only 8 percent in Birmingham and 3 percent in Boston.

Sardine Size Preference

Respondents were asked two questions about the size of the sardines they preferred. In the first instance, they were asked whether they preferred the small or the large sardines; and in the second, they were asked to specify the approximate length in inches of the sardines they liked to buy.

About 80 percent of the respondents said they preferred small to large sardines. "Better taste" and "better flavor" were the principal reasons given for selecting the small size. When specifying the number of inches, nearly 90 percent indicated a preference for sardines 5 inches or less in length.

Domestic versus Imported Sardines

More than one-half of the users in Birmingham, 56 percent, and Detroit, 53 percent, served only domestic sardines. Approximately the same proportion of Boston users, 54 percent, served only imported sardines. In each of the three cities, about one-third of the sardine users served both domestic and imported canned sardines. "Lower price" was the leading reason given by those who use only domestic sardines. The vast majority of those who use only imported sardines say that imports "taste better."

When evaluating the relative quality of domestic and imported sardines, 55 percent of the users in Detroit considered domestic about the same as imported. Only 26 percent of the Boston users and 34 percent of those in Birmingham were of this opinion. Seventeen percent of the users in Detroit thought domestic sardines were better. The percentage of users in this group in Boston was 6 percent; in Birmingham, 20 percent. Domestic sardines were termed not as good by 14 percent of the Detroit users, 36 percent of those in Boston, and 17 percent in Birmingham.

Sixteen percent of the Boston users, 19 percent of those in Birmingham, and 21 percent of the Detroit users felt that they would eat more domestic sardines if the bones and skin were removed.

Buying Habits

Only 12 percent in Boston, 21 percent in Birmingham, and 31 percent of the

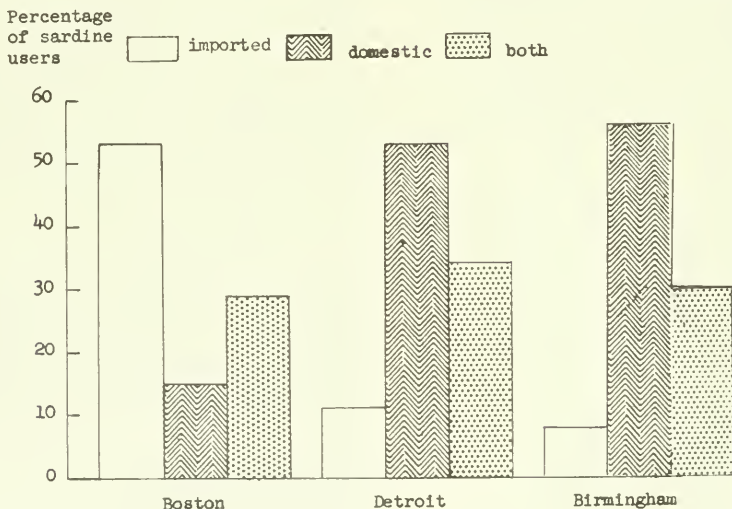


FIGURE II.--PERCENTAGE OF SARDINE USERS WHO BOUGHT ONLY DOMESTIC, ONLY IMPORTED, OR BOTH TYPES OF CANNED SARDINES

sardine users in Detroit bought sardines on impulse at the time of their last purchase; the remainder made a planned purchase. The explanation of their behavior by impulse buyers included "on sale," "just happened to notice them," and "just wanted to have them on hand."

Serving Habits

Slightly more than one-half of the sardine users in Birmingham sometimes served sardines for dinner compared with only about one-eighth of those in Boston and nearly one-third of the users in Detroit.

[Open questions and the probing technique also may be used when attempting to ascertain why the product is or is not used in a certain way. Specific, spontaneous responses of the type elicited only after skilled probing are important sources of information for those interested in expanding the market for canned sardines.]

The analysis of the respondents' answers to an open question and probes revealed that the chief reasons for not serving sardines for dinner are the feeling that sardines are primarily a luncheon, snack, or picnic food; or that there are not enough of them to make a full dinner meal.

Sardine users in Birmingham served an average of 4.9 small sardines per adult for a snack compared to an average of 5.9 in Detroit and 6.3 in Boston.

Birmingham sardine users served an average of 5.3 sardines per adult for a meal. This average is based on the 53 percent of those in the city who knew the number of sardines they serve. The average of 5.4 in Detroit and 7.6 in Boston were based on only 39 percent and 17 percent of the users in the respective cities.

In 78 percent of the sardine-user households in Birmingham, sardines were served in the home when the respondent was a child. For Boston and Detroit, the comparable percentages were 71 percent and 70 percent, respectively.

[The replies of consumers to open questions and their responses to the use of the probing technique revealed the relative importance of price reduction and other considerations as motives for the more frequent use of canned sardines.]

Seventeen percent of the sardine users in Birmingham and 15 percent in Detroit indicated that a lower price would lead to an increase in their consumption of the product. Only 4 percent mentioned a price reduction as an incentive in Boston. The removal of the bones and better cleaning at the cannery were mentioned as inducements to greater consumption by 16 percent of the users in Detroit, 7 percent in Boston, and 6 percent in Birmingham. However, 46 percent in Boston, 27 percent in Birmingham, and 21 percent in Detroit said that nothing would induce them to eat more sardines. In addition, about one-fifth of the users in all three cities said that they eat sardines often enough at present.

Percentage of sardine users

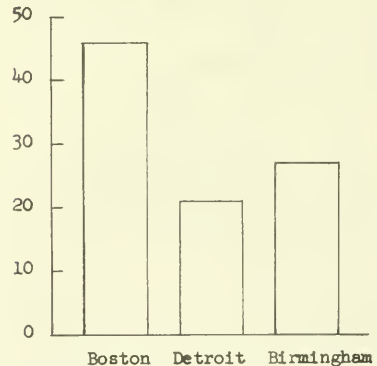


FIGURE III.--PERCENTAGE OF SARDINE USERS WHO SAID THAT NOTHING WOULD INDUCE THEM TO USE MORE SARDINES

Interest in Sardine- Paste Spread

Sixty-three percent of the sardine users in both Boston and Detroit said that they would not use sardines that had been processed into a paste spread. The comparable percentage for Birmingham was 37 percent. In all three cities, the most frequently mentioned use for such a spread was on crackers.

Recipe Sources

Approximately 8 out of 10 of the sardine users in all three cities could not name their sources of sardine recipes. The most frequently-named source of information was "friends," but even this source was mentioned by no more than 10 percent in any of the three cities.

Ordering Sardines In Public Eating Places

The great majority of sardine users--more than 95 percent in each city--had not ordered sardines in a public eating place during the two months prior to the interview. Similarly high percentages of the respondents in the user group indicated that no one eating with them had ordered sardines in the same period.

Reasons for Not Using or Seldom Using Canned Sardines

[Motivational research techniques--the open question and the probe--were used to great advantage when the survey sought the reasons for not using, seldom using, or discontinuing the use of canned sardines.]

The "never users" (those who had not used sardines in the past 12 months) were asked if there was any special reason why they had not served sardines. By far the most frequently mentioned reasons were those associated with the lack of appeal to the senses--taste, smell, and appearance. Also "too oily" was mentioned as a reason by 35 percent in Boston, 20 percent in Detroit, but only 11 percent in Birmingham.

Less than 4 out of 10 of the "never users" in each of the three cities had used

sardines in the past. Approximately 60 percent of these "past users" had served sardines within the last 4 years. The respondents in this group said they had stopped using canned sardines because they did not like the product's taste or smell; the respondent's husband or children did not eat sardines; the family was reduced in size; or for health or diet reasons.

The leading reasons given by the "sporadic users" (those who had served sardines in the past 12 months, but not in the past 4 weeks) for using canned sardines so seldom also referred primarily to a lack of sense appeal either to the homemaker or to other members of these families. Approximately one-fifth of the "sporadic users" in Birmingham and one-fourth in both Boston and Detroit said they only used sardines for snacks or on picnics. Twenty-one percent of the "sporadic users" in Boston, 28 percent in Detroit, and 41 percent in Birmingham said they had used sardines more often in the past. A reduction in the size of the family and health or diet reasons were most frequently mentioned as motives for the less frequent use of the product.

Nearly 60 percent of the sardine non-users ("never users" and "sporadic users" combined) in Birmingham and Detroit reported that at least one member of the household liked sardines.

Canned Sardine Advertising

About 80 percent of all respondents in Birmingham said they had not seen or heard any advertising for canned sardines. The comparable proportions for Boston and Detroit were 87 percent and 88 percent, respectively.

Among those who had been exposed to canned sardine advertising, newspapers were reported most frequently as the source by respondents in Birmingham and Detroit. Newspapers and magazines were mentioned as sources by approximately the same proportions of the respondents in Boston.

Personal Characteristics

The socio-economic characteristics ^{2/} of the households and homemakers in all three cities differed considerably with respect to race, religion, income, birthplace of parents, employment status, and education. In Birmingham, 36 percent of the households were Negro compared with 19 percent in Detroit and only 2 percent in Boston.

Percentage of respondents

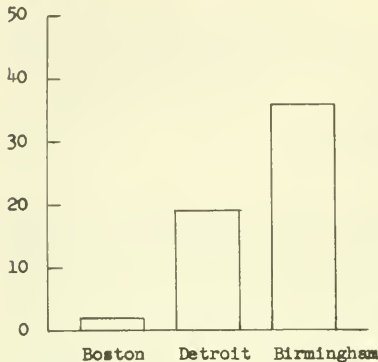


FIGURE IV.--PERCENTAGE OF NEGRO RESPONDENTS AMONG HOUSEHOLDS SURVEYED

In Birmingham, 6 percent of the respondents were Catholics as compared to 34 percent in Detroit and 58 percent in Boston. The remainder comprised families of the Protestant religion, for the most part. A significantly higher proportion of the Birmingham families have a lower income than is the case for Boston and Detroit. Only 3 percent of the Birmingham respondents said one or both of their parents were born outside of the United States compared with 42 percent in Boston and 28 percent in Detroit. A slightly higher proportion of the Birmingham respondents were employed as compared with the two other cities. Finally, a higher proportion of the Boston respondents received an education beyond the eighth grade than in Birmingham and Detroit.

The personal characteristics of the households and homemakers were tabulated for each of the canned sardine consumption

groups as defined for this study. In Birmingham, use of sardines increases in households where the number of people eating at home is 7 or more; in households where the husband's occupation is manual, skilled, semiskilled, or unskilled; in households where the age of the respondents is 46 to 55; households with family incomes of less than \$4,000; where the education of the homemaker does not extend beyond the eighth grade; and among Negroes. Among Negroes, the change is very great; only 16 percent of the "never users" were Negroes, compared to 38 percent among the "sporadic users;" 37 percent among the "light users;" and no less than 83 percent among the "heavy users."

In Boston, the most significant differences are between heavy users and all other "user" groups. The "heavy users" include higher proportions of families with 5 or more people eating at home; households in which the respondent is not employed outside of the home; households in which the homemaker is 36 to 45 years of age; households in which the parents of the homemaker were foreign born; and Catholic households.

In Detroit, the "heavy users" include higher proportions of households where the husband's occupation is manual; households in which the education of the homemaker did not extend beyond the eighth grade; households in which the homemaker was born in the Southern States; Catholic households; and Negro households.

A statistical summary of findings based on classification of the data by personal characteristics of the households, together with data on product image discussed subsequently in this report, will be made available for a limited time upon request to the Fish and Wildlife Service by persons having a need for such data.

THE SARDINE CAN

Size of Can

Nearly 90 percent of the sardine users in all three cities bought sardines in the small can. The large can is bought by 20 percent in Detroit, 17 percent in Birmingham, and 12 percent in Boston. Range in can size was established by showing pictures of cans to the respondents. In all three cities, only one-eighth of the

^{2/} See table 52.

respondents indicated that the preferred sardine can size was not right for their households.

The respondents were shown a full-size sketch of a 4-ounce sardine can and were asked to state the number of sardines they would like to find in this size can. The Birmingham average of 7.5 small sardines to the can was somewhat less than 10.6 average in Boston and 10.7 in Detroit.

Cans With and Without Keys

Slightly more than 80 percent of the sardine users in Birmingham, 86 percent in Detroit, and more than 90 percent in Boston preferred a sardine can with a key. However, 47 percent of those who expressed such a preference among the Birmingham sardine users would not be willing to pay more for a can with a key. In Detroit, 53 percent and in Boston, 68 percent would not pay more. The majority of those who would be willing to pay more for a can with a key indicated a willingness to pay only an additional one cent a can.

Sardine Can Illustrations

Respondents were shown sketches of a fish scene and a marine scene. They were then asked to indicate which would be the more attractive on a sardine can. Seventy percent of the respondents in Birmingham and 55 percent in Detroit preferred the fish scene. In Boston, the marine scene was preferred by 53 percent; the fish scene, by 44 percent.

MAINE VERSUS CALIFORNIA SARDINES

Preferences

Three-fourths of the sardine users in all three cities who serve domestic sardines indicated that they usually bought Maine sardines. In Birmingham, 44 percent of the users usually bought California sardines; in Boston 10 percent and in Detroit 19 percent.

Appearance of California Sardines

Fifty-two percent of the sardine users in Birmingham thought that the appearance of California sardines was satisfactory

when the can was opened; in Boston, 35 percent were of this opinion; and in Detroit, 45 percent. The proportion who did not find the product's appearance satisfactory in Birmingham was 15 percent; in Boston, 6 percent; and in Detroit, 19 percent.

✓The skilled interviewers successfully used the probe technique to discover the ways in which the appearance of the California sardines did not please the latter group of respondents. ✓

In response to an open question and the subsequent probe, those users who were not pleased with the appearance of the California sardines mentioned "look too large" most frequently as the reason.

Appearance of Maine Sardines

In Birmingham, 82 percent of the sardine users were pleased with the appearance of Maine sardines when the can was opened; only 10 percent were not. Fifty-one percent in Boston thought that the appearance was satisfactory; only 6 percent were of the opposite opinion. The appearance favorably impressed 80 percent of the Detroit users; only 12 percent indicated that it was not pleasing to them.

Comparison of Maine and California Sardine Users

Detroit was the only city that provided a sufficient number of users of California sardines to make possible a comparison of Maine and California sardine users. The items used in the comparison of the Detroit user groups are summarized as follows:

Sardine users who usually bought Maine sardines served them an average of 2.8 times in the four weeks prior to the interview. California sardines were served 2.9 times during the same period by those who usually bought that product.

Sixty-five percent of the Maine sardine users bought the product packed in vegetable oil most frequently. One-fourth of the California users indicated that they usually purchased sardines packed in tomato sauce; only one-twentieth of the Maine sardine users usually chose this style of pack.

The appearance of California sardines in the open can was pleasing to more than 90 percent of the California sardine users, but to only 45 percent of the Maine product users. Eighty percent of the users in both groups indicated that the appearance of Maine sardines in the open can was satisfactory.

More than 80 percent of the Maine sardine users indicated a preference for a can with a key, compared with 65 percent of the California users.

Impulse buying is somewhat more frequent among California users (38 percent) than among Maine users (27 percent).

Preference for the large-size sardine can is more pronounced among California users, 33 percent, than among Maine users, 4 percent.

California users tend to have higher incomes than Maine users. Slightly more than 40 percent of the California users were in the highest income bracket, \$7,000 a year or more. Only 17 percent of the Detroit families were in that group.

Eighteen percent of the Maine users indicated that they would use more domestic sardines if bones and skin were removed, compared with 10 percent of the California sardine users.

RACE, INCOME, AND SARDINE USE

Objective

A major domestic market for Maine and California sardines has been traditionally among Negroes and low income groups in the Southern States. There has been a tendency to attribute the decline in these markets in recent years to the rising standards of living generally among Negro consumers.

One of the objectives of this survey was to investigate whether or not there is a psychological attitude of "poor man's food" associated with Negro families' use of sardines. Conversely, as Negro families' incomes rise, do they switch to tuna and other canned fish because they associate it as a food for "higher class" families?

Method

In order to investigate this problem, white and Negro households in Birmingham and Detroit were classified into three income groups, ranging from low income to relatively high income.^{3/} The attitudes of these groups were examined on a number of questions.

Consumer Preferences

Among Negroes in Birmingham in the lowest income group, 12 percent mentioned sardines as their choice compared with 10 percent in the next higher income category and 9 percent in the group having the highest annual income.

Sixteen percent of the Detroit Negro respondents in the lowest income class named sardines as their preference. The like percentage in the middle income group was 7 percent and in the highest income category, 11 percent. However, the modest decline in the mention of sardines as income increased was not restricted to Negro families. There was a parallel movement among white respondents as income increased. For example, among Detroit white households in the lowest income group, 10 percent indicated that sardines are "liked best." The comparable percentage in the next higher income class was 5 percent and in the highest income group, 4 percent.

Use of Canned Fish

There was some increase in the use of canned tuna, salmon, and sardines among Negro families as income increased. Of the Negro families in Birmingham, 64 percent of those in the lowest income group used tuna in the 12 months prior to the interview; and 82 percent in the middle income category also used the product during that period. The comparable percentages

^{3/} The income groups were designated as follows: (1) annual incomes of less than \$2,999; (2) \$3,000 to \$4,999; and (3) \$5,000 and over.

for Negro respondents in Detroit were 84 percent, 79 percent, and 84 percent.

Eighty-seven percent of the Birmingham Negro respondents in the lowest income class and 97 percent in the higher income groups had used canned salmon during the 12 months preceding the interview. In Detroit, 76 percent in the lowest income class, 84 percent in the middle group, and 97 percent in the highest income category also reported using canned salmon.

There is a tendency toward the increased use of sardines by Negro respondents as their income increases. In Birmingham, nearly 80 percent in the lowest income classification and 90 percent in the higher income categories reported serving canned sardines in the 12 months prior to the interview. The percentages among Detroit homemakers were 72 percent and 89 percent, respectively. The proportion of white families using sardines in the 12 months prior to the interview in those cities did not increase with income. However, the proportions using tuna and salmon did increase with increases in income.

Consumer Product Attitudes

The association between income and the attitude that sardines are a food for Negroes or poorer people is the opposite of that which was anticipated. As income increased among Negroes, the feeling that sardines are a food eaten by Negroes or poor people decreased. The proportion of Birmingham Negroes in the lowest income class who disagreed with the statement that sardines are a food for poorer people was 23 percent; in the next higher group, 25 percent; and in the highest income classification, 47 percent.

ORANGEBURG COUNTY RESULTS

Purpose

Two hundred Negro households in rural Orangeburg County, S. C., were included in the survey because of the importance of such households as a market for canned sardines. The analysis of the results of this phase of the survey indicates differences and similarities between Negro households located in Birmingham and Detroit and rural households situated in Orangeburg County.

Use of Canned Sardines

Two-thirds of the Orangeburg County respondents named salmon as their preferred canned fish; 8 percent, tuna; and 14 percent, sardines. The proportion choosing sardines was nearly three times that of the over-all average of 5 percent for all respondents in the three cities.

Only 20 percent of the rural homemakers had not served sardines in the 12 months prior to the interview. This percentage was comparable to that for Negro households in Birmingham, 17 percent, and somewhat lower than that of Detroit Negro households, 27 percent.

The frequency of serving sardines in the 4-week period averaged 2.3 times in Orangeburg County and 2.0 times in Negro households in Birmingham and Detroit. All sardine-user respondents in Detroit averaged 2.4 servings during the same period; in Birmingham, 2.7 servings.

Sardines are eaten by all family members in 90 percent of the sardine-user households in Orangeburg County, compared with 76 percent of the Negro households in Birmingham and 64 percent in Detroit.

Sardine Pack Preference

Sardines packed in vegetable oil are the most popular in Orangeburg County with 39 percent of the homemakers reporting this preference. Negro respondents in Birmingham, 56 percent, and Detroit, 78 percent, also named the vegetable-oil pack. Natural oil and tomato sauce--21 percent and 19 percent, respectively--are next in popularity in the rural area, followed by olive oil and mustard sauce at 10 percent each.

Loyalty to the preferred product is strongest in the rural area and Negro Detroit households where 69 percent of the sardine users remain consistent buyers of the same oil or sauce. The comparable percentage for Negro user-households in Birmingham is 48 percent. Most of the users in Orangeburg County and those in Birmingham change either to mustard sauce (62 percent and 35 percent, respectively) or to tomato sauce (42 percent and 33 percent, respectively). Among Negro sardine-users

in Detroit, the changes are to tomato sauce 48 percent; olive oil, 19 percent; and natural oil, 15 percent. Those who switch said they did so mainly because they "like variety."

Sardines packed in olive oil are considered to be of the best quality by all three groups of Negro sardine-user respondents. Soybean oil and cottonseed oil packs were named also by significant percentages of these respondents.

Sardine Size Preference

Nearly three-quarters of the Orangeburg County respondents prefer small rather than large sardines. The leading reasons given were "better taste" and "sweeter." More than one-third of these homemakers did not know the length of the sardines they liked best. Another third stated a preference for 2- to 5-inch fish and the remainder, 2 inches or less.

Domestic versus Imported Sardines

Only domestic sardines are used by 89 percent of the Orangeburg County respondent households. In Birmingham, 57 percent of the Negro respondents used domestic sardines and in Detroit, 67 percent. About 30 percent of the homemakers in the urban areas served both domestic and imported sardines, compared with 6 percent in the rural group. Lack of awareness of other kinds (imported) was by far the most important reason given by Orangeburg County respondents for their preponderant use of the domestic product.

Serving Habits

More than three-quarters of the Orangeburg County homemakers sometimes served sardines for dinner, compared with 63 percent of the Negro group in Birmingham and only 34 percent in Detroit.

Two-thirds of the rural respondents served only 1 or 2 small sardines per adult for a snack. The over-all average was only 2.2 sardines for a snack portion. Servings made by the comparable group in Birmingham average 3.9 sardines; in Detroit, 5.3. Only 2.5 sardines were served per adult for a meal in the Orangeburg County group;

5.6 and 5.5 sardines were the average per adult meal in Birmingham and Detroit, respectively.

Nine out of ten rural homemakers report that sardines were served in their homes when they were children. About 8 out of 10 Negro urban respondents made the same report.

Thirty-six percent of the Orangeburg County homemakers indicated that they served sardines often enough at the present time. An additional 7 percent indicated that nothing would induce them to serve more sardines. A lessening or elimination of unpleasant odors was named as a reason for increased use by 15 percent. Better cleaning and removal of bones was listed by 11 percent.

"Lower price" was mentioned as an inducement for increasing their sardine consumption by 22 percent of the Negro respondents in Birmingham and 24 percent in Detroit. Only in Detroit was the odor problem mentioned by as many as 10 percent of the homemakers. Of the Birmingham group, 23 percent indicated that present servings of sardines were about the amount they would want; in Detroit, the proportion was 17 percent. Twenty-one percent in Birmingham and 14 percent in Detroit were of the opinion that nothing would induce them to serve more sardines.

Maine versus California Sardines

Eighty-seven percent of the Orangeburg County domestic-sardine users usually bought Maine sardines; 13 percent, the California product. The proportions for Negro households using Maine sardines in Birmingham were 74 percent, and 16 percent using California sardines; those in Detroit, 72 percent and 14 percent, respectively.

Nearly 60 percent of the rural respondents had no opinion whether appearance of California sardines was pleasing to them in the open can. In the Birmingham Negro group, 59 percent indicated that the product's appearance was satisfactory; in Detroit, 49 percent expressed this opinion.

More than 90 percent of the Negro respondents in the rural area and in

Birmingham were pleased by the appearance of Maine sardines in the open can; the comparable percentage in Detroit is 84 percent.

MOTIVATIONAL ANALYSIS

The motivational analysis in this survey was carried out by two different methods. The first method was to ask respondents open questions as to why they use or do not use sardines so that they could mention spontaneously any reason or motive. The interviewers, who were all familiar with probing techniques, were instructed to probe as deeply as possible for any reasons which the respondents could not bring out immediately. There was a series of such open questions. The users were asked what would induce them to serve more sardines; nonusers were asked why they do not serve sardines; those who had stopped using sardines were asked why they had stopped. The sporadic users were asked why they used sardines so seldom; those who now use sardines less often than in the past were asked why they had reduced the number of times they served them. Similarly, there were open questions as to why people use sardines packed in a particular oil or sauce; why they used only domestic or imported sardines; why they preferred large or small sardines. The responses to these open questions (as well as the responses to the more usual direct questions) have been summarized in the first part of this report.

Determining the Product Image

The second method which was used to study motivations is statistical and requires some technical explanation. The first step in this analysis was to determine the "image" of the product--that is, what each respondent thought of sardines, what characteristics she attributes to them, what associations the product evokes. Therefore, each respondent was asked whether she agreed or disagreed with a series of statements, each representing a characteristic of sardines; for example: "Sardines have a good flavor."

[The motivational technique used in this phase of the analysis is known as the "guided association

question." Although the respondent is asked only whether or not she agrees or disagrees with the statement, the interviewer actually records the intensity of the answer. Thus, strong agreement or disagreement (as well as less intensely expressed feelings or opinions) is noted by the interviewer. In addition, the statements on the questionnaire were sometimes phrased positively and sometimes negatively--as for example: "Sardines have an unpleasant smell." This was done in order to minimize what is called a "halo" or clustering effect whereby a favorable attitude toward a product tends to make respondents attribute all favorable characteristics to the product. The skill and training of the interviewer are as important to the proper handling of guided association questions as these requirements are when dealing with open questions and the probing technique.]

The product-image phase of the study conducted in Birmingham revealed that more than 90 percent of the respondents in that city regard sardines as a convenient food and that sardines usually are not eaten by children only. Between 73 and 85 percent of the respondents were of the opinion that sardines are not too troublesome to prepare; are used a great deal by Negroes; do not have many uses; are not expensive; and have an unpleasant smell.

In Boston, the image is somewhat different. Eighty-seven percent of these respondents agreed that sardines usually are not eaten only by children. However, only 20 percent agreed that they are used a great deal by Negroes--68 percent neither agreed or disagreed. The only other leading characteristic on which there was agreement between Birmingham and Boston homemakers was on the statement "Sardines do not have many uses." In each of those cities, three-quarters of the respondents agreed with the statement. Only one other characteristic was agreed to by more than 70 percent of the respondents in Boston--that sardines are good only if they are a well-known brand.

Nine out of ten Detroit respondents agreed that sardines usually are not eaten only by children. This statement was the only one agreed to by as many as 90 percent of the respondents. As in Birmingham, 75 percent to 84 percent of the respondents agreed that sardines do not have many uses, that they are a convenient food and not too troublesome to prepare. All of the other statements were agreed to by less than 70 percent of the respondents.

Rather wide differences of opinion among the respondents in the three cities were noted for the items "sardines have an unpleasant smell," "are food for poorer people," and "are used a great deal by Negroes."

Measuring the Motivational Difference

The aim of motivational analysis is to determine the characteristics which have the greatest influence on the behavior of the respondent. The approach used in this study to measure the strength of a motive was to determine first the ratio of heavy users among those who agree with the statement and compare it with the ratio of heavy users among those who do not agree with it. The difference between these ratios, which will be called the motivational difference, indicates whether agreeing with the statement has influence and measures the extent of the motivational strength of the statement. The greater the difference between the ratios, the stronger the influence of the specific statement. The selection of heavy user groups is justified because there is an interest in converting not only the never users into regular users but also to transform the light users into heavy users of canned sardines.

Considerable agreement exists among the three cities with respect to the items with the highest motivational differences. Good flavor is first in all three cities and is clearly the most important motive. The motivational differences are high for "are not undesirably oily," "have a pleasant aftertaste," "are a food of high quality," and "have a nice appearance in the can." Ease of preparation is also an important motive. In Boston, "not troublesome to prepare" ranked high as a motive. "Not hard to make look good" was listed as an important

item in Detroit; it also was a significant consideration in Birmingham.

Index of Possible Market Gain

As a third step, the extent to which a motivating characteristic is already attributed to the product by homemakers must be measured.^{4/} Conversely, the proportion of homemakers who are to be convinced that canned sardines have a specific desirable quality must be established. It is in this group that the potential market gain is greatest. The result of multiplying the motivational difference by the potential to be convinced yields an index of the possible market gain.

Observations Based on Computed Indexes of Possible Market Gain

Only the items "sardines have a pleasant aftertaste," "are not hard to make look good," and "are not undesirably oily" are among the leaders in all three cities. This is explained for the most part by the fact that the survey cities are located in different regions of the country. The variations in the list among the cities are a reflection of differences in socio-economic characteristics and marketing behavior.

Common to both Boston and Detroit are the items "sardines have a good flavor" and "have many uses." Important in Birmingham and Boston is the characteristic "nice appearance in the can." "Sardines are only good if a well-known brand" is among the leading indexes in Birmingham and Detroit.

SUGGESTIONS

The following suggestions have been derived from the analysis and summary of the data:

-
- 4/ There is no need to try to convince that sector of the public that a product has a certain characteristic when everyone within the sector recognizes that this is the case.

Only a small proportion of the consuming public has been exposed to promotional or advertising material for sardines. In view of the limited budgets of most sardine packers, it would be advisable for them to channel advertising and promotional expenditures through a central agency of an industry association as is done in Maine. By means of such a program, a consistent, coherent, and more widespread promotional campaign could be undertaken.

Household consumer demand for sardines is not as strong as the demand for other canned fish; only 5 percent of the respondents in any of the survey cities expressed their preference for sardines. If any substantial progress is to be made in increasing sardine consumption, it is particularly important that a strong and sustained effort be made to raise the prestige of the product. Of nearly equal importance would be the introduction of product innovations which would give the product wider appeal.

Promotional and advertising efforts must be directed toward increasing the frequency with which sardines are used and also toward increasing the proportion of user households. There are serious weaknesses in both these areas at the present time.

Another area in which there is a possibility of increasing sardine consumption is indicated by the different serving habits noted in the three cities. In both Boston and Detroit, sardines are served much less frequently as a dinner item than in Birmingham. One of the functions of any educational campaign designed to increase sardine use should be to widen the practice of serving sardines for dinner.

A method of increasing the use of the product as a dinner item is suggested by the small number of sardines served per person at any meal (about 5 to 7 sardines). If sardines are to be used as a main course, it is important that recipes be developed which would require sardines to be used in larger quantities.

It would be advisable for sardine packers to contribute to the support of a full-time experimental kitchen. The primary function of such an establishment would be to investigate ways of preparing

and serving sardines. Results of the research would provide a constant supply of recipes and product uses which then would be presented to the public through advertising and promotional media. At the present time, the vast majority of housewives are unable to indicate any source from which sardine recipes are obtained.

Special prices on the larger can of sardines should be associated with new recipe ideas in an effort to increase the sales of the large can. Consumer satisfaction with the smaller can is very high at present; however, it is related to the limited use made of sardines. Indications are that this satisfaction could be overcome by means of special price inducements for the purchase of the larger can and by making housewives aware of uses which involve greater quantities of sardines.

A promotional program directed at the restaurant trade is required. The proportion of consumers ordering sardines in public eating places is very small. Special advertising material designed to inform restaurant owners and cooks should be prepared and distributed. The purpose of this program would be to increase the number of sardine offerings on restaurant menus.

As new methods of serving or packing sardines are developed, particular emphasis should be placed on sauces or additives that would reduce the amount of oil. It also would be advisable to disguise the taste of sardines so as to make the qualities presently associated with aftertaste more acceptable to consumers.

Because of the differences which appear among the leading indexes for the three cities, at least some newspaper and magazine promotional themes should have more limited appeal to consumer buying motives. Limitations of this sort would enable the advertiser to vary or control his activities on a local or regional basis.

Unless the shape of the can is changed, consumers prefer that a key be supplied.

TABLES

The tables showing the percentage distribution of the responses to each of the questions pertinent to this report are included in the next section. A weighted base was employed for the computation of each percentage distribution. This base is shown at the bottom of each table column. Weighting the actual number of interviews completed in each city was necessary since a small number of the sampling units were subsampled to avoid an excessive number of interviews in any one interviewing assignment. This procedure was necessary in those sample area segments which had grown considerably in number of households since 1950. In addition, the total Detroit area was divided into zones which were either predominately white or Negro with the former sampled at one-half the rate of the

latter zone; weighting was employed to restore the proportionableness of the race distribution in this city.

No weighting was attempted for households selected for the sample but not interviewed (refusals, unable to contact, etc.). The actual number of completed interviews and the weighted base for the total respondent population in each city are shown below.

<u>City</u>	<u>Actual number of interviews</u>	<u>Weighted base</u>
Birmingham	585	669
Boston	553	572
Detroit	609	916

Percentage distributions were computed whenever the weighted base was 25 or more.

STATISTICAL TABLES

Use of Canned Sardines

TABLE 1.--WHICH KIND OF CANNED FISH DO YOU LIKE BEST?

Kind of canned fish	All respondents		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Tuna	42	56	47
Salmon	42	17	27
Sardines	5	4	6
Shrimp	3	14	11
Don't know	8	9	9
Weighted base	(669)	(572)	(916)

TABLE 2.--HAVE YOU SERVED SARDINES DURING THE LAST 12 MONTHS?

Response	All respondents		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	62	52	60
No	38	47	40
Don't know	0	(1)	0
Weighted base	(669)	(572)	(916)

1/ Less than one percent.

Use of Canned Sardines

TABLE 3.--DURING THE PAST FOUR WEEKS, ABOUT
HOW OFTEN DID YOU SERVE CANNED SARDINES?

Number of times	Those who have served sardines in the last year		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
1 time	13	14	19
2 times	12	15	14
3 times	7	7	7
4 times	7	8	5
5 or more times	8	4	7
Did not serve	53	51	47
Don't know	(1)	1	(1)
Weighted base	(414)	(295)	(554)
Average (last 12 months)	1.3	1.2	1.3
Average (last 4 weeks)	2.7	2.4	2.4

1/ Less than one percent.

TABLE 4.--WHO IN YOUR FAMILY EATS SARDINES?

Family member	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
Entire family	62	36	55
Husband	21	44	30
Respondent	23	28	26
Children	12	17	12
Other adults	4	9	2
Weighted base	(192)	(140)	(291)

1/ Totals more than 100 percent as some respondents gave more than one answer.

Note: For this study "sardine users" are defined as those who have served canned sardines within the last four weeks.

Sardine Pack Preference

TABLE 5.--WHICH SARDINE PACK DO YOU USUALLY BUY?

Kind of pack	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
Natural	16	1	5
Olive oil	22	67	29
Vegetable oil	46	18	57
Tomato sauce	7	5	5
Mustard sauce	4	1	5
Sild oil	2	9	4
Don't know	8	2	1
Weighted base	(192)	(140)	(291)

1/ Totals more than 100 percent as some respondents gave more than one answer.

TABLE 6.--WHICH KIND (PACK) DO YOU BUY OCCASIONALLY?

Kind of pack	Those who use more than one pack		
	Birmingham	Boston	Detroit
	Percent	(2)	Percent
	(1)		(1)
Natural	10	-	8
Olive oil	16	-	16
Vegetable oil	21	-	14
Tomato sauce	35	-	34
Mustard sauce	33	-	31
Sild oil	0	-	2
Don't know	7	-	0
Weighted base	(81)	(23)	(90)

1/ Totals more than 100 percent as some respondents gave more than one answer.

2/ Numbers are too small to be statistically significant.

Sardine Pack Preference

TABLE 7.--WHY DO YOU USE THE OTHER KINDS (PACKS)?

Reasons	Those who use more than one pack		
	Birmingham	Boston	Detroit
	Percent	(2)	Percent
	(1)		(1)
Like variety	31	-	48
The store does not have the kind I prefer	6	-	6
Just to try; mistake	12	-	6
Husband buys it; husband likes it	21	-	13
Has the best flavor	6	-	6
All other reasons	23	-	22
Don't know	10	-	4
Weighted base	(81)	(23)	(90)

1/ Totals more than 100 percent as some respondents gave more than one answer.

2/ Numbers are too small to be statistically significant.

TABLE 8.--WHICH SARDINE OIL PACK DO YOU
CONSIDER TO BE THE BEST QUALITY?

Oil pack	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Olive oil	52	65	45
Cottonseed oil	10	5	13
Soybean oil	8	3	28
Sild oil	3	4	4
Don't know	27	23	10
Weighted base	(192)	(140)	(291)

Sardine Pack Preference

TABLE 9.--WHY DO YOU USE SARDINES PACKED IN THAT PREPARATION?

Reasons	Sardine users who usually buy sardines packed in . . .														
	Birmingham					Boston					Detroit				
	Olive oil	Vege- table oil	All other sauces	Olive oil	Per- cent	Olive oil	Vege- table oil	All other sauces	Olive oil	Per- cent	Olive oil	Vege- table oil	All other sauces	Olive oil	Per- cent
Better taste	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
More digestible, better for health	55	44	42	68	28	48	39	57	58						
Husband buys it; husband and children like it	21	3	0	9	4	4	17	12	7						
Cheaper; price	17	10	9	14	12	12	29	13	23						
Less oil	5	16	6	1	28	0	4	13	4						
Not as salty; more uses	2	5	16	7	8	4	1	4	23						
Other	0	3	1	1	0	0	0	2	0						
Don't know	2	3	1	4	4	8	4	4	8						
Weighted base	7	26	30	12	24	28	13	10	4						
	(42)	(88)	(69)	(94)	(25)	(25)	(84)	(166)	(57)						

1/ Totals more than 100 percent as some respondents gave more than one answer.

Sardine Size Preference

TABLE 10.--DO YOU PREFER LARGE OR SMALL SARDINES?

Size	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Large	11	14	10
Small	84	81	79
Don't know	5	5	11
Weighted base	(192)	(140)	(291)

TABLE 11.--WHY DO YOU PREFER SMALL SARDINES?

Reasons	Sardine users who prefer only small sardines		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
Better taste, meat is nicer	38	50	35
Better flavor	17	21	9
The bones are easier to remove, fewer bones	8	16	14
Look better on a luncheon plate, fit between crackers better	18	11	18
All other reasons ^{2/}	50	27	43
Don't know	6	8	10
Weighted base	(162)	(114)	(229)

1/ Totals more than 100 percent as some respondents gave more than one answer.

2/ None of the reasons in this category was given by as many as 10 percent of the respondents in any of the three cities.

Sardine Size Preference

TABLE 12.--ABOUT HOW MANY INCHES LONG ARE THE SARDINES YOU PREFER?

Length	Sardine users		
	Birmingham	Boston	Detroit
	<u>Percent</u>	<u>Percent</u>	<u>Percent</u>
	100	100	100
2 inches or less	21	21	17
2 to 5 inches	71	74	72
More than 5 inches	1	0	4
Don't know	7	5	7
Weighted base	(192)	(140)	(291)

Domestic versus
Imported Sardines

TABLE 13.--DO YOU USE ONLY DOMESTIC OR ONLY IMPORTED SARDINES OR BOTH?

Responses	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Imported	8	54	11
Domestic	56	15	53
Both	30	29	34
Don't know	6	2	2
Weighted base	(192)	(140)	(291)

TABLE 14.--WHY DO YOU BUY ONLY DOMESTIC OR ONLY IMPORTED SARDINES?

Reasons	Sardine users who use only domestic sardines			Sardine users who use only imported sardines		
	Birming- ham	Boston	Detroit	Birming- ham	Boston	Detroit
	Percent	(2)	Percent	(2)	Percent	Percent
	(1)		(1)		(1)	(1)
Taste better	23	-	25	-	70	71
Price is lower	41	-	54	-	0	0
Grocer does not carry others	6	-	0	-	0	0
Not aware of other kinds	2	-	3	-	1	3
Smell better	4	-	3	-	0	0
Habit	10	-	15	-	9	13
Other	3	-	8	-	20	10
Don't know	26	-	15	-	3	10
Weighted base	(106)	(21)	(155)	(15)	(76)	(31)

1/ Totals more than 100 percent as some respondents gave more than one answer.

2/ Numbers are too small to be statistically significant.

Domestic versus
Imported Sardines

TABLE 15.--DO YOU THINK DOMESTIC SARDINES ARE BETTER,
ABOUT THE SAME, OR NOT AS GOOD AS IMPORTED SARDINES?

Responses	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Better	20	6	17
About the same	34	26	55
Not as good	17	36	14
Don't know	29	32	14
Weighted base	(192)	(140)	(291)

TABLE 16.--IF DOMESTIC SARDINES HAD THEIR BONES
AND SKIN REMOVED, WOULD YOU . . . ?

Responses	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Eat more sardines	19	16	21
Eat about the same quantity	73	56	71
Don't know	8	28	8
Weighted base	(192)	(140)	(291)

Buying Habits

TABLE 17.--WAS YOUR MOST RECENT SARDINE PURCHASE
 PLANNED BEFORE YOU WENT TO THE STORE OR DID
 YOU DECIDE TO BUY THEM WHILE IN THE STORE?

Responses	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Planned	77	88	69
Impulse	21	12	31
Don't know	2	0	0
Weighted base	(192)	(140)	(291)

TABLE 18.--WHAT MADE YOU DECIDE TO BUY THEM WHILE IN THE STORE?

Responses	Impulse buyers of sardines		
	Birmingham	Boston	Detroit
	Percent	(2)	Percent
	(1)		(1)
Need them to have on hand	20	-	19
For quick snack, dinner, meal	29	-	24
On sale	17	-	38
Happened to notice them	34	-	30
Other	0	-	1
Don't know	5	-	1
Weighted base	(41)	(17)	(90)

1/ Totals more than 100 percent as some respondents gave more than one answer.

2/ Numbers are too small to be statistically significant.

Serving Habits

TABLE 19.--DO YOU SOMETIMES SERVE SARDINES FOR DINNER?

Responses	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	51	12	32
No	49	87	68
Don't know	0	1	0
Weighted base	(192)	(140)	(291)

TABLE 20.--WHY DON'T YOU SERVE SARDINES FOR DINNER?

Reasons	Respondents who do not serve sardines for dinner		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
A luncheon dish; for snacks; for picnics	45	44	50
Not enough for dinner	17	57	34
Not a balanced meal	12	4	6
Don't eat them for dinner	6	5	9
All other reasons	29	17	32
Don't know	4	2	3
Weighted base	(95)	(122)	(197)

1/ Totals more than 100 percent as some respondents gave more than one answer.

Serving HabitsTABLE 21.--HOW MANY SMALL SARDINES DO
YOU SERVE PER ADULT FOR A SNACK?

Number of sardines	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
1 or 2	19	2	5
3 or 4	23	21	23
5 or 6	29	31	32
7 or 8	12	16	11
9 or 10	10	24	19
Don't know	7	6	10
Weighted base	(192)	(140)	(291)
Average number per adult snack serving	4.9	6.3	5.9

TABLE 22.--HOW MANY SMALL SARDINES DO
YOU SERVE PER ADULT FOR A MEAL?

Number of sardines	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
1 or 2	3	0	2
3 or 4	18	1	7
5 or 6	19	5	11
7 or 8	7	3	7
9 or 10	6	8	12
Don't know	47	83	61
Weighted base	(192)	(140)	(291)
Average number per adult meal serving	5.3	7.4	5.4

Serving Habits

TABLE 23.--WERE SARDINES SERVED IN YOUR HOME WHEN YOU WERE A CHILD?

Responses	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	78	71	70
No	16	27	30
Don't know	6	2	(1)
Weighted base	(192)	(140)	(291)

1/ Less than one percent.

TABLE 24.--WHAT WOULD INDUCE YOU TO USE MORE SARDINES?

Reasons	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
Nothing	27	46	21
Eat them often enough	20	20	22
Lower price	17	4	15
Better cleaning, remove bones	6	7	16
Make them smaller	7	0	8
Lessen, remove unpleasant odor	7	3	7
Other	13	17	29
Don't know	11	6	3
Weighted base	(192)	(140)	(291)

1/ Totals more than 100 percent as some respondents gave more than one answer.

Interest in
Sardine Paste Spread

TABLE 25.--IF SARDINES WERE PROCESSED INTO A PASTE SPREAD,
DO YOU THINK YOU WOULD USE SUCH A PRODUCT . . . ?

Uses	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
On crackers	58	25	30
On sandwiches	30	14	16
As an hors d'oeuvre	16	21	14
Fritos, potato chips	1	1	0
Other	2	1	1
Would not use	37	63	63
Do not use	2	2	2
Weighted base	(192)	(140)	(291)

1/ Totals more than 100 percent as some respondents mentioned more than one answer.

Recipe Sources

TABLE 26.--WHERE HAVE YOU OBTAINED SARDINE RECIPES OR INFORMATION?

Sources	Sardine users		
	Birmingham	Boston	Detroit
	<u>Percent</u>	<u>Percent</u>	<u>Percent</u>
	(1)	(1)	(1)
Newspaper advertisement	6	2	3
Newspaper food column	8	4	3
Magazine advertisement	9	3	4
Magazine food column	9	3	4
All television, radio sources	8	0	6
Friend	10	8	5
Can label	5	1	4
Cook book, recipe book, calendar	3	2	1
Make up own; learned as cook	0	0	1
Don't know	79	82	86
Weighted base	(192)	(140)	(291)

1/ Totals more than 100 percent as some respondents gave more than one answer.

Ordering Sardines in
Public Eating Places

TABLE 27.--HAVE YOU ORDERED SARDINES IN A PUBLIC
EATING PLACE DURING THE PAST TWO MONTHS?

Responses	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	4	2	2
No	96	97	98
Don't know	0	1	0
Weighted base	(192)	(140)	(291)

TABLE 28.--OTHER THAN YOURSELF, HAS ANYONE EATING
WITH YOU ORDERED SARDINES IN A PUBLIC EATING
PLACE IN THE PAST TWO MONTHS?

Responses	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	5	4	2
No	92	92	97
Don't know	3	4	1
Weighted base	(192)	(140)	(291)

Reasons For Not Using Or Seldom
Using Canned Sardines

TABLE 29.--IS THERE ANY SPECIAL REASON WHY YOU DO NOT SERVE SARDINES?

Reasons	Sardine non-users who had not served sardines in past 12 months		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
Do not care for sardines	29	37	41
Unpleasant odor	44	10	33
Unpleasant appearance	23	17	28
Unpleasant taste	24	11	23
Do not care for fish	4	5	3
Unpleasant aftertaste	3	0	4
Too oily	11	35	20
Health or diet reasons	4	14	8
Difficult to prepare or use	6	8	11
Other	8	6	5
Don't know	1	2	3
Weighted base	(255)	(276)	(362)

1/ Totals more than 100 percent as some respondents gave more than one answer.

TABLE 30.--DID YOU EVER USE SARDINES IN THE PAST?

Responses	Sardine non-users who had not served sardines in past 12 months		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	34	30	38
No	64	69	61
Don't know	2	1	1
Weighted base	(255)	(276)	(362)

Reasons For Not Using Or Seldom
Using Canned Sardines

TABLE 31.--HOW LONG AGO DID YOU SERVE THEM?

Number of years	Sardine non-users who had not served sardines in past 12 months		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
1 to 2 years	22	15	19
2 to 3 years	19	39	28
3 to 4 years	21	14	13
5 years or more	25	31	32
Don't know	13	1	8
Weighted base	(88)	(84)	(138)

TABLE 32.--WHY DID YOU STOP SERVING SARDINES?

Reasons	Sardine non-users who had not served sardines in past 12 months		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
Lacks appeal	33	27	19
Husband, children will not eat them	11	7	13
Family reduced in size	11	11	9
Difficult to prepare, use	10	12	8
Health or diet reasons	14	21	17
Other reasons	12	26	28
Don't know	12	1	13
Weighted base	(88)	(84)	(138)

1/ Totals more than 100 percent as some respondents gave more than one answer.

Reasons For Not Using Or Seldom
Using Canned Sardines

TABLE 33.--WHY DO YOU USE SARDINES SO SELDOM?

Reasons	Sardine non-users who had served sardines in past 12 months		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
Lacks appeal	39	26	38
Difficult to prepare, use	29	28	23
Only use for snack, picnics	20	26	26
Health or diet reasons	15	18	24
Other reasons	15	23	16
Don't know	4	1	2
Weighted base	(222)	(155)	(263)

1/ Totals more than 100 percent as some respondents gave more than one answer.

TABLE 34.--DID YOU USE SARDINES MORE OFTEN IN THE PAST?

Responses	Sardine non-users who had served sardines in past 12 months		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	41	21	28
No	59	79	70
Don't know	0	0	2
Weighted base	(222)	(155)	(263)

Reasons For Not Using Or Seldom
Using Canned Sardines

TABLE 35.--DOES ANYONE LIVING IN THE HOUSE LIKE SARDINES?

Responses	Sardine non-users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	63	27	56
No	29	13	42
Don't know	8	60	2
Weighted base	(477)	(431)	(625)

TABLE 36.--WHY HAVE YOU REDUCED THE NUMBER
OF TIMES YOU SERVE SARDINES?

Reasons	Sardine non-users who served sardines in past 12 months and used sardines more in the past		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	100	(1)
Lacks appeal	7	6	3
Family reduced in size	21	28	14
Health or diet reasons	17	25	19
Only use occasionally	21	9	15
Other reasons	27	24	36
Don't know	7	8	18
Weighted base	(91)	(32)	(74)

^{1/} Totals more than 100 percent as some respondents gave more than one answer.

Canned Sardine Advertising

TABLE 37.--HAVE YOU SEEN OR HEARD ANY
ADVERTISING FOR CANNED SARDINES?

Responses	All respondents		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	19	13	12
No	80	86	87
Don't know	(1)	1	(1)
Weighted base	(669)	(572)	(916)

1/ Less than one percent.

TABLE 38.--WHERE DID YOU SEE OR HEAR ADVERTISING FOR CANNED SARDINES?

Sources	Those exposed to advertising for canned sardines		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
Magazines	28	48	51
Radio	27	1	6
Television	22	15	10
Newspapers	47	44	64
Don't know	3	0	6
Weighted base	(127)	(73)	(106)

1/ Totals more than 100 percent as some respondents gave more than one answer.

Sardine Can

TABLE 39.--DO YOU BUY SARDINES PACKED IN THE LARGE OR SMALL CAN?

Can size	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
Large	17	12	20
Small	90	91	91
Don't know	0	1	0
Weighted base	(192)	(140)	(291)

1/ Totals more than 100 percent as some respondents gave more than one answer.

TABLE 40.--HOW MANY SMALL SARDINES WOULD YOU LIKE TO FIND IN THE 4-OUNCE CAN?

Number	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
6 or less	34	4	8
7 or 8	32	16	12
9 or 10	13	23	21
11 or 12	7	26	19
More than 12	8	23	30
Don't know	6	8	10
Weighted base	(192)	(140)	(291)
Average	7.5	10.6	10.7

Sardine Can

TABLE 41.--DO YOU PREFER A SARDINE CAN WITH OR WITHOUT A KEY?

Responses	Sardine users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
With key	81	91	86
Without key	16	9	14
Don't know	3	0	0
Weighted base	(192)	(140)	(291)

TABLE 42.--HOW MUCH MORE WOULD YOU PAY FOR A CAN WITH A KEY?

Amount	Sardine users who prefer a sardine can with a key		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
No more	47	68	53
1 cent	27	16	26
2 cents	13	6	14
3 cents	8	7	3
More than 3 cents	3	0	3
Don't know	2	3	1
Weighted base	(156)	(127)	(251)

Sardine Can

TABLE 43.--WHICH OF THESE SCENES ON
A SARDINE CAN IS MORE ATTRACTIVE?

Scene	Sardine users		
	Birmingham	Boston	Detroit
	<u>Percent</u>	<u>Percent</u>	<u>Percent</u>
	100	100	100
Fish scene	70	44	55
Marine scene	28	53	42
Don't know	2	3	3
Weighted base	(192)	(140)	(291)

Maine versus
California Sardines

TABLE 44.--WHERE DO THE DOMESTIC SARDINES YOU BUY USUALLY COME FROM?

State	Sardine users who use domestic sardines		
	Birmingham	Boston	Detroit
	<u>Percent</u>	<u>Percent</u>	<u>Percent</u>
	(1)	(1)	(1)
Maine	77	79	76
California	14	10	19
Don't know	14	13	13
Weighted base	(164)	(61)	(255)

1/ Totals more than 100 percent as some respondents gave more than one answer.

TABLE 45.--DOES THE APPEARANCE OF CALIFORNIA
SARDINES PLEASE YOU WHEN YOU OPEN THE CAN?

Responses	Sardine users		
	Birmingham	Boston	Detroit
	<u>Percent</u>	<u>Percent</u>	<u>Percent</u>
	100	100	100
Yes	52	35	45
No	15	6	19
Don't know	33	59	36
Weighted base	(192)	(140)	(291)

Maine versus
California Sardines

TABLE 46.--IN WHAT WAY DO CALIFORNIA SARDINES NOT PLEASE YOU?

Reasons	Sardine users who do not like appearance of California sardines		
	Birmingham	Boston	Detroit
	<u>Percent</u>	(2)	<u>Percent</u>
	(1)		(1)
Look too large	38	-	58
Poor appearance; color too dark	21	-	25
Too much skin and bones	14	-	22
Too "fishy" looking	17	-	9
Don't look clean	14	-	13
Tails are left on	3	-	20
Other	6	-	2
Don't know	14	-	11
Weighted base	(29)	(9)	(55)

- 1/ Total exceeds 100 percent as some respondents gave more than one answer.
2/ Numbers are too small to be statistically significant.

TABLE 47.--DOES THE APPEARANCE OF MAINE SARDINES
PLEASE YOU WHEN YOU OPEN THE CAN?

Responses	Sardine users		
	Birmingham	Boston	Detroit
	<u>Percent</u>	<u>Percent</u>	<u>Percent</u>
	100	100	100
Yes	82	51	80
No	10	6	12
Don't know	8	43	8
Weighted base	(192)	(140)	(291)

Maine versus
California Sardines

TABLE 48.--COMPARISON OF MAINE AND CALIFORNIA SARDINE USERS IN DETROIT ^{1/}

Preferred pack ^{2/}	Users who usually buy	
	Maine sardines	California sardines
	Percent	Percent
Vegetable oil	65	<u>3/</u> 46
Tomato sauce	5	25
Olive oil	23	31
Other	17	8
<u>Appearance - Open can California sardines</u>		
Pleasing	45	92
Not pleasing	19	8
Do not know	36	0
Open can Maine sardines		
Pleasing	87	81
Not pleasing	12	10
Do not know	1	9
<u>Preference for can with key</u>		
With key	83	65
Without key	17	35
<u>Last purchase, by type</u>		
Planned	73	62
Impulse	27	38
<u>Effect of skin, bone removal when packed</u>		
If done, would eat more sardines	18	10
If done, would eat about same quantity	78	85
Do not know	4	5
Weighted base	(193)	(48)

^{1/} Detroit was the only one of the three survey cities that provided a sufficient number of California sardine users to make a comparison possible.

^{2/} Total exceeds 100 percent as some respondents gave more than one answer.

^{3/} Apparently some respondents believed that natural oil pack contains some vegetable oil and consequently this response is overstated.

Race, Income and
Sardine use

TABLE 49.--CONSUMER PREFERENCES, BY RACE AND INCOME

Kind of canned fish	Birmingham				Detroit							
	Negro, by income		White, by income		Negro, by income		White, by income					
	Less than \$2,999	to or more \$4,999	Less than \$2,999	to or more \$4,999	Less than \$2,999	to or more \$4,999	Less than \$2,999	to or more \$4,999				
	Per-cent	Per-cent	Per-cent	Per-cent	Per-cent	Per-cent	Per-cent	Per-cent				
	100	100	100	100	100	100	100	100				
Canned sardines	12	10	-	3	1	2	16	7	11	10	5	4
Other canned fish ^{1/}	88	90	-	97	99	98	84	93	89	90	95	96
Weighted base	(130)	(79)	(23)	(78)	(134)	(202)	(58)	(76)	(37)	(116)	(229)	(357)

^{1/} Not specified in cross tabulation.

^{2/} Numbers are too small to be statistically significant.

CharacteristicsTABLE 52.--SELECTED SOCIO-ECONOMIC
CHARACTERISTICS OF HOUSEHOLDS, HOMEMAKERS

Race	All respondents		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
White	64	98	81
Negro	36	2	19
Other	0	0	0
<u>Religion</u>			
Protestant	94	33	63
Catholic	6	58	34
Jewish	0	8	2
Other	0	1	1
<u>Income</u>			
Under \$2,999	31	12	19
\$3,000 to \$3,999	16	15	13
\$4,000 to \$4,999	16	35	20
\$5,000 to \$6,999	18	20	26
\$7,000 or more	15	15	17
Unclassified	4	3	5
Weighted base	(669)	(572)	(916)
<u>Both parents native born</u>			
Yes	96	58	71
No	3	42	28
Unclassified	1	0	1
Weighted base	(668)	(483)	(764)
<u>Outside employment of homemaker</u>			
Yes	33	26	29
No	64	72	70
Unclassified	3	2	1
Weighted base	(669)	(572)	(916)
<u>Completed education of homemaker</u>			
Less than 8th grade	24	10	24
8th through 12th grade	62	73	62
College	13	16	14
Unclassified	1	1	0
Weighted base	(669)	(572)	(916)

SURVEY METHODS

Questionnaire

The development phase of the study consisted of 57 depth interviews conducted by specialists in this type of interviewing. Respondents were chosen for these interviews in a non-systematic, but also non-random method. These interviews consisted of informal and casual discussions covering aspects of household consumers' preferences for canned fish. The respondent was allowed to take whatever direction she wanted to in these discussions, following her own natural inclinations. No attempt was made to limit or restrict the discussion to predetermined areas of interest. Only when the respondent had exhausted some topic did the interviewer attempt to give some further direction to the interviews by asking a very general and open "why" or "how" question.

In addition, a number of specific techniques were used in these initial interviews as further aids in eliciting consumer attitudes and motivations. Such techniques as word association, sentence completion, response projection, role taking, and cartoon tests were used.

After the first few of these 57 interviews were completed, discussions were held by the staff and the interviewers. Suggestions were made regarding procedural changes in order to increase the prospects for more complete and detailed information.

Using these 57 preliminary interviews as a basis, a list of associations was developed showing all of the relevant areas to be explored in the full scale study. This "item list" formed the basis for development of the "guided association" portion of the questionnaire.

Several drafts of the pre-test questionnaire were then developed, in consultation with staff members of the U. S. Fish and Wildlife Service, with each draft receiving limited field tests by a specialist in interviewing techniques. An improved draft of the questionnaire was also forwarded to members of the fish canning industry for their comments and suggestions.

A full scale pre-test of the questionnaire was carried out in the three urbanized areas selected for the full scale survey, Boston, Massachusetts; Birmingham, Alabama and Detroit, Michigan. A total of 61 pre-test interviews were completed. These were distributed approximately equally among the three urbanized areas. A complete review of all questions included in the pre-test was carried out with differences in local interpretation noted especially. Based on this review final revisions in the questionnaire were made and specific instructions to the interviewers prepared. A copy of the questionnaire is included in this Appendix.

Sample Design

The sample design for this study was constructed with two basic requirements in mind. First, the sampling techniques employed must be consistent with the demands of sound research methodology; they must be techniques by which valid inferences may be drawn from the sample for the population group under investigation. The only known way to meet this requirement is through probability sampling. With probability samples, the chance of observing a given individual or element of the population of interest is known. It permits the researcher to not only control the sampling areas, but also to measure them. It is this property, the measurability of area, which lends validity to the conclusions drawn from probability samples.

Second, the sample design must be economically and statistically efficient; that is, it should, for the budget allotted and resources available, provide the most accurate estimates of the characteristics studied. The estimates derived from the sample must be of sufficient accuracy to be used with confidence. Selection of the most efficient design implies knowledge of the sources of variation affecting a set of sample observations or measurements. The problem of sample design is to make that judicious selection among the many techniques available for controlling these sources of variation, and hence the eventual sampling area, which will achieve an appropriate balance between administrative efficiency and statistical

efficiency. The specific techniques employed in the sample designs constructed for this study include:

1. Grouping the eligible population into small clusters or sampling units comprising an efficient interviewer daily work load.
2. Grouping the sampling units into city and suburban zones, in each of the three urbanized areas surveyed, to provide approximately proportionate representation.
3. A further grouping of the sampling units within each zone into geographic or area strata, with an equal number of sampling units in each stratum, to ensure adequate distribution of the sample to all segments of the population of interest.
4. Using equal probabilities for the selecting of sampling units within strata and thereby considerably simplifying the formulas necessary for valid computation of the estimates and of their standard errors.

A strict probability sample implies the application of completely objective methods for the selection of respondents. In the absence of a list of households or persons eligible for interview, the required objectivity is met through the use of area probability sampling techniques. To be satisfied with simple area sampling techniques is not enough, however. Ingenuity in the use of available resources and facilities can considerably increase the efficiency of one area probability sample over another.

United States Census Population and Housing data, both published and unpublished, are our major resource in the design of efficient probability samples. Unpublished data for small areas, such as enumeration districts used in collecting census data, may be purchased on special order from the Bureau of the Census. In open country areas maps indicating the location of dwelling units are available

from State Highway Commissions. This supplementary information may be used for a variety of purposes in the design of a sample including stratification, assigning selection probabilities, or for the construction of approximately equal-sized sampling units. The sample design outlined below makes use of 1950 census data to establish the area strata and for the assignment of the sampling units within these strata. Although these data were not used for the direct assignment of selection probabilities, the sampling plan adopted is such that the chance for any segment of the areas surveyed, to be represented in the sample, was approximately proportionate to the number of occupied dwelling units contained within the segment whether it was an enumeration district, census tract, township, urban place, city block, or portion of an enumeration district, etc.

A sample representative of all households in the urbanized areas of Birmingham, Alabama; Boston, Massachusetts; Detroit, Michigan was selected for this study. In addition, a representative sample of all non-white households located in the rural portion of Orangeburg County, South Carolina was chosen. Bureau of the Census definitions of households, dwelling units, urbanized area, rural territory etc. were employed. The sample designs for the three urbanized areas will be described first. These designs were stratified one-stage sample designs, constructed in accordance with the principles outlined above. Careful control in all steps of the sample selection made it possible to know exactly the chance every household cluster or sampling unit had of falling into the sample.

The first step in the sample design consisted of listing and ordering geographically the census tracts in the central city portions of each of the three urbanized areas. In Detroit, those census tracts with 10 percent or more of the dwelling units occupied by non-white households in 1950 were listed and ordered separately. Similarly, ordered lists of the 1950 Census Enumeration Districts were prepared for those portions of the three urbanized areas which fall outside the central cities. Geographic or area strata were then constructed within the central city zones and the suburban zones for each

of the urbanized areas using the ordered lists and 1950 census data on the number of occupied dwelling units or households found in each census tract, block or enumeration district. These strata, seventy in number for each urbanized area, were constructed to contain approximately the same number of households in each.

Each of the seventy strata was then divided into a number of small area segments having boundaries which could easily be identified in the field by the interviewers. Each such area segment contained one or more clusters of households or sampling units. The number of sampling units or interviewer work loads assigned to each area segment was based on data available on the number of occupied dwelling units located within these segment boundaries. These data were obtained from a variety of sources including 1950 block statistics, 1950 enumeration district statistics, state highway maps, etc.

The geographic strata in each city were all constructed to contain the same number of sampling units with the exception of Detroit. In the central city portion of Detroit, the area strata for the tracts in the white zone (that is, the tracts with at least 90 percent of their 1950 dwelling units occupied by white families) were constructed to contain twice as many sampling units as the remaining area strata established for the Detroit urbanized area sample. Initially, two sampling units were selected with equal probability and without replacement from each of the geographic strata, yielding a sample total of 140 sampling units for each urbanized area.

The sample selection was accomplished by choosing two random numbers for each stratum between one and the total number of sampling units in the stratum. Thus, the sampling rate was the same for all geographic strata within a city with the exception of those comprising the white zone in Detroit referred to above. Since these strata contained twice as many sampling units as the remaining geographic strata in Detroit they were sampled at one-half the rate of the remaining strata in that urbanized area. The disproportionate sampling in Detroit was deemed necessary to yield sufficient interviews with non-white families for separate tabulation.

The number of strata and sampling units for the central cities and the remaining portions of the three urbanized areas are shown in the following table:

Appendix Table 1

NUMBER OF STRATA AND SAMPLING UNITS OF URBANIZED AREAS INCLUDED IN THE MOTIVATION SURVEY

Area	Number of strata	Sampling units per stratum
Boston Urbanized Area		
Boston city	25.0	1,454
Outside city	45.0	1,454
Birmingham Urbanized Area		
Birmingham city	52.0	298
Outside city	18.0	298
Detroit Urbanized Area		
Detroit city, white zone	25.5	2,560
Detroit city, non-white	15.5	1,280
Outside city	29.0	1,280

The decision to include a sample of non-white households in Orangeburg, South Carolina was made after the sample for the three principal urbanized areas was designed and selected. The expected sample size in each of the three urbanized areas was then reduced from 840 households to 725 households in order to shift a portion of the field budget to the survey to be conducted in Orangeburg County. Rather than design and select a new sample in each of the three urbanized areas, twenty sampling units in Birmingham, thirteen in Boston, and twenty-eight in Detroit were discarded at random with a condition that no more than one sampling unit would be discarded from any one stratum.

Strict field procedures were employed to determine the eligible households associated with the selected sampling units in an unbiased manner. The interviewers were required to list the occupied dwelling units in each area segment containing a selected sampling unit in advance of the interviewing. The listings showed addresses and other necessary identification for all dwelling units located within the boundaries of each area segment. The enumerators were provided with maps showing these boundaries, as well as the starting point and direction

to take through the segment for listing purposes. These lists were then returned to the Philadelphia office of the A. J. Wood Research Corporation where they were checked. Next, the dwelling units on each list which were associated with the selected sampling units were marked for interviewing. For example, if a given area segment was assigned three sampling units and the random selection had designated the second sampling unit, the list was first divided into three equal parts and then the dwelling units listed in the second of the three parts were marked for interview. The few sampling units in each urbanized area which contained more than 12 households selected for interview were subsampled. The lists were then returned to the interviewers for interviewing.

The interviewers were instructed to interview the sample (marked) households on the list and any other household (not shown on the list) found between a sample household and the next one listed. Thus households which might have been omitted in the pre-listing were included; and changes occurring after the pre-listing were accounted for. Interviews in the sample households were conducted with the person mainly responsible for planning the meals. Where the person designated for interview was not at home on the first call, succeeding calls up to a total of three were made on different days or evenings (in some instances more than three calls were made).

The sample design for the Orangeburg County, South Carolina sample was similar in many respects. After preparing an ordered list of the enumeration districts falling in the rural portion of the county, sampling units were assigned to the enumeration districts according to the number of dwelling units occupied in 1950 by non-white households contained in each. These sampling units were then grouped into geographic strata, 21 in total, with each stratum containing 55 sampling units. Two sampling units were selected at random without replacement from each stratum, yielding a total of 42 sampling units for the sample. Next, maps of each of the area segments containing a selected sampling unit were prepared and the interviewers listed all dwelling units falling within the area segment, classifying these

dwelling units according to whether they were occupied by white households or non-white households or were vacant. The location of each dwelling unit was marked on the segment map and numbered; this same number was used on the listing sheet.

Field Work

Training sessions with the supervisors and interviewers were conducted in each of the survey areas by members of the Philadelphia office staff of the A. J. Wood Research Corporation. Initial field work was checked for quality and understanding of the instructions. A copy of the interviewer instructions is also included in this Appendix.

In addition to the check of the initial interviews, the area supervisors were required to conduct a preliminary edit of all work turned in and to check 10 percent of each interviewer's work by telephone. A further verification check on the field staff was carried out by the home office by means of a check card mailing to 33 percent of the respondents in each city.

A total of 2,385 households were designated for interview in this survey; 706 in Birmingham, 743 in Boston, 716 in Detroit and 220 in Orangeburg. Interviews were completed in 1,947 of the sample households. The reasons for the non-interviews are tabulated in Appendix Table 2.

Data Processing Procedures

All questionnaires were edited upon receipt in the Philadelphia office and those which were incomplete or contained questionable responses were returned to the field supervisors for re-interview. The coding department then prepared tabulations of the open-end questions from a sample of the completed interviews from each survey area. Codes for these questions were established and coding instructions prepared and reproduced.

The questionnaire and coding procedures were explained and reviewed with the coders. The open-end questions were reserved for coding by the most experienced coders only. Answers to open-end questions which were not readily

classified into specific code categories were held aside for review by the coding supervisor and project director. Specific categories for the latter cases were established when necessary.

The work of all coders was checked by the coding supervisor until an acceptable level of coding consistency was achieved both between and within coders. Thereafter a 10 percent check for the purpose of maintaining this consistency level was carried out.

The punch cards were then prepared and weighted as follows: In Detroit, the interviews completed in sampling units selected from the white zone were duplicated once since these interviewer assignments had one-half the probability of being included in the sample as did the remaining sampling units chosen for this survey in that city. In addition the punch cards for interviews completed in assignments which had been subsampled were weighted according to the subsampling rates. No attempt was made to substitute or weight for households designated for the sample but not interviewed.

The punch cards then received a thorough error and consistency check on the IBM Electronic Statistical machine. Where necessary the punch cards were corrected by reference to the specific questionnaires corresponding to the cards in question.

Sampling Errors

The sampling error for a particular estimate serves as a guide to the confidence with which this estimate can be used.

It is a measure of the closeness of the sample estimate to the result which would be obtained from a complete census of the population sampled, using the same questionnaire, interviews and interviewing procedures.

Practically all of the estimates developed from the data collected in this study are simple percentages of the respondents having a particular opinion or characteristic. In technical terminology, these percentages are actually combined strata ratio estimates, since the sample design employed extensive geographic stratification and cluster sampling, in which the number of respondents in each cluster was subject to random sampling variation. Thus, sampling errors were computed using the formula for the variance of a ratio estimate.

This formula contains variance measures for the cluster average of both the numerator and denominator of the computed proportion or percentage estimate, as well as a covariance measure for these two averages. These measures were computed from the average variance between clusters within strata.

The chances are approximately 2 to 1 that the error, due to sampling, in a particular estimate, will not exceed one standard error; the chances are 19 to 1 against a deviation as large as two standard errors from the result which would be obtained with a complete census using the same procedures.

Estimates of the standard errors for several items included among the guided association questions are shown in Appendix Table 3.

Appendix Table 2
REASONS FOR NON-INTERVIEWS

Designation	Birmingham		Boston		Detroit		Orangeburg County, South Carolina	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
Total households designated for interview	706	100	743	100	716	100	220	100
Total households interviewed	585	83	553	74	609	85	200	91
Total households designated but not interviewed	121	17	190	26	107	15	20	9
Reasons for non-interviews								
Not-at-home (3 or more calls)	60	9	65	9	38	5	15	7
Refused	29	4	62	8	46	6	4	2
Other ^{1/}	24	3	60	8	17	2	1	(3)
Not eligible ^{2/}	8	1	3	(3)	6	1	-	-

^{1/} This category includes sickness of eligible respondent, language difficulty, and vacancy of dwelling unit on succeeding call.

^{2/} These were households where main meals were not eaten at home.

^{3/} Less than one percent.

Appendix Table 3

SAMPLING ERRORS

Question	Item	Percent who agree	Estimated standard error in percentage points
1.	Sardines have a good flavor:		
	Birmingham	59.5	2.3
	Boston	54.9	1.8
	Detroit	58.7	2.2
4.	Sardines have a pleasant aftertaste:		
	Birmingham	34.4	3.3
	Boston	33.4	1.8
	Detroit	35.6	2.3
8.	Sardines are expensive:		
	Birmingham	9.4	1.5
	Boston	17.0	2.0
	Detroit	13.9	2.2
21.	Sardines are a convenient food:		
	Birmingham	90.3	1.3
	Boston	63.3	3.2
	Detroit	82.2	2.0

QUESTIONNAIRE

Stratum No. 3,4 Segment No. 5 Unit No. 6

Bureau of the Budget
No. 42-5901
Auth. Expires June 30, 1959

City 7

INTERVIEW THAT PERSON MAINLY RESPONSIBLE FOR PLANNING THE MEALS SERVED IN THE HOUSEHOLD

RECORD OF CALL:

	Date	Interview	Not at Home	Refusal	Other (SPECIFY)
1st Call					
2nd Call					
3rd Call					

A. J. WOOD RESEARCH CORPORATION
PART A - GUIDED ASSOCIATION QUESTIONS
CANNED FISH STUDY

Time Interview Started:
_____ A.M. _____ P.M.

Introduce yourself as being from the A. J. Wood national research corporation doing a study for the U. S. Government. Then say, "I am going to make several statements about three types of canned fish. After I make the statement will you tell me how you feel about it, if you agree or disagree." (Interviewer will grade intensity of feeling by respondent's statement, attitude, tone, etc.)

PART A

(READ EACH STATEMENT INSERTING EACH VARIETY OF CANNED FISH)		Strongly agree	Agree	Disagree	Strongly disagree	Don't know or Indifferent
1. _____ has a good flavor.	Sardine	9-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
2. _____ has an unpleasant smell.	Tuna	10-1	-2	-3	-4	
	Sardine	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
3. _____ leaves a bad odor in the refrigerator.	Salmon	11-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	
4. _____ has a pleasant aftertaste, that is after it has been eaten.	Tuna	12-1	-2	-3	-4	
	Sardine	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
5. _____ can size is about right for my household.	Sardine	13-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
6. _____ is undesirably oily.	Tuna	14-1	-2	-3	-4	
	Salmon	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	
7. _____ is a food of high quality.	Salmon	15-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	

(READ EACH STATEMENT
INSERTING EACH VARIETY
OF CANNED FISH)

		Strongly agree	Agree	Disagree	Strongly disagree	Don't know or Indifferent
8. _____ is expensive, compared to other canned fish.	Tuna	16-1	-2	-3	-4	
	Salmon	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	
9. _____ has a nice appearance when you open the can.	Salmon	17-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	

Tell me what you think immediately when I ask the following questions.

	Coffee	Tea	Milk	Beer	Soft Drink	Fruit Juice or Punch	Other
10. What beverages go best with sardines?	---	---	---	---	---	---	_____
11. What beverages go best with salmon?	---	---	---	---	---	---	_____
12. What beverages go best with tuna?	---	---	---	---	---	---	_____

(READ EACH STATEMENT
INSERTING EACH VARIETY
OF CANNED FISH)

		Strongly agree	Agree	Disagree	Strongly disagree	Don't know or Indifferent
13. _____ does not have many uses.	Sardine	21-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
14. _____ is mainly eaten by manual laborers.	Tuna	22-1	-2	-3	-4	
	Sardine	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
15. _____ is used by people who are inexperienced cooks.	Salmon	23-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	
16. _____ is hard to make look good to eat.	Tuna	24-1	-2	-3	-4	
	Sardine	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
17. _____ is used a great deal by Negroes.	Salmon	25-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	
18. _____ is often eaten by sick people.	Tuna	26-1	-2	-3	-4	
	Sardine	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	

(READ EACH STATEMENT
INSERTING EACH VARIETY
OF CANNED FISH)

		Strongly agree	Agree	Disagree	Strongly disagree	Don't know or Indifferent
19. _____ is usually eaten only by children.	Salmon	27-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	
20. _____ is not eaten by people trying to lose weight.	Sardine	28-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
21. _____ is a convenient food for a busy housewife.	Salmon	29-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	
22. _____ is only good if it is a well-known brand.	Tuna	30-1	-2	-3	-4	
	Sardine	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
23. _____ is too troublesome to prepare.	Sardine	31-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
24. _____ is food for poorer people.	Sardine	32-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
25. Canned shrimp are equal in quality to fresh shrimp.	X	33-1	-2	-3	-4	
26. Canned shrimp are less costly than fresh shrimp.	X	-5	-6	-7	-8	

PART D

SARDINE SECTION

A-1. Have you served canned sardines during the last 12 months? Yes-----35-1
 No----- -2

IF "NO," SKIP TO NON-SARDINE USER SECTION

B-1. During the past 4 weeks, about how often did you serve canned sardines?
 1 time----- -3 Did not serve----- -X
 2 times----- -4 Don't know----- -Y
 3 times----- -5
 4 times----- -6
 5 times or more
 (SPECIFY)_____

IF NO SARDINES SERVED IN LAST 4 WEEKS, SKIP TO NON-USER SECTION

SARDINE USERS ONLY

1. Who in your family eats sardines... Entire family?-----36-1
 or only
 Husband,----- -2
 Respondent,----- -3
 Children under 5,----- -4
 Children 5 - 10,----- -5
 Children 11 - 15,----- -6
 Male children over 15,----- -7
 Female children over 15,----- -8
 Other adults?----- -9

2. Which preparation in which sardines are packed do you usually buy... Natural,-----37-1
 Olive oil,----- -2
 Vegetable oil,----- -3
 Tomato sauce,----- -4
 Mustard sauce,----- -5
 Sild oil?----- -6
 Other (SPECIFY)_____

NOTE: COTTONSEED AND SOYBEAN OIL ARE VEGETABLE OILS

2a. Why do you use that kind?

PROBE

3. Do you sometimes use another kind? Yes-----38-1
 No----- -2

IF "YES"

3a. Which kind? Natural----- -3
 Olive oil----- -4
 Vegetable oil----- -5
 Tomato sauce----- -6
 Mustard sauce----- -7
 Sild oil----- -8
 Other (SPECIFY)_____

3b. Why do you use the other kind(s)?

39-

PROBE

4. Do you buy sardines which come in the large or in the small can? Large-----40-1
 Small----- -2

SHOW CARD #1 TO RESPONDENT

5. Do you use only domestic or only imported sardines or both? Imported----- -3
 Domestic----- -4
 Both----- -5

IF ONLY DOMESTIC OR IMPORTED

5a. Why? _____

PROBE

ASK QUESTION 5b IF DOMESTIC OR BOTH

- 5b. Where do the domestic sardines you buy usually come from... Maine,-----4-1
 or California?---- -2
6. Do you think domestic sardines are better, about Better----- -3
 the same, or not as good as imported sardines? About the same---- -4
 Not as good----- -5
7. If domestic sardines had their bones and eat more of them,----- -6
 skin removed, would you... or eat about the same?--- -7
8. Does the appearance of California sardines Yes----- -8
 please you when you open the can? No----- -9
- IF "NO" ←
- 8a. In what way do they not please you? _____

PROBE

9. Does the appearance of Maine sardines please you when you open the can? Yes-----4-3-1
 No----- -2
- IF "NO" ←
- 9a. In what way do they not please you? _____

10. What would induce you to use more sardines?

PROBE

11. Do you prefer a sardine can with or without a key? With-----4-5-1
 Without----- -2
- 11a. IF WITH KEY How much more would you pay No more----- -3
 for a can with a key? 1¢----- -4
 2¢----- -5
 3¢----- -6
 More (SPECIFY) _____
12. Do you sometimes serve sardines for dinner? Yes-----4-6-1
 No----- -2
- IF "NO"
- 12a. Why don't you serve them for dinner?

PROBE

13. The last time you bought sardines, did you plan to buy them before you went to the store; or did you decide on them at the store? Planned-----4-7-1
 Impulse----- -2

IF "IMPULSE"

13a. What made you decide to buy them? _____

PROBE

14. How many small sardines do you serve per adult for a snack?	1 or 2-----	-48-1
	3 or 4-----	-2
	5 or 6-----	-3
	7 or 8-----	-4
	9 or 10-----	-5

IF SERVED FOR MEALS, ASK Q. 15

15. How many small sardines do you serve per adult for a meal?	1 or 2-----	-6
	3 or 4-----	-7
	5 or 6-----	-8
	7 or 8-----	-9
	9 or 10-----	-10

16. How many small sardines would you like to find in this size can?	Less than 5 or 6-----	-49-1
	7 or 8-----	-2
	9 or 10-----	-3
	11 or 12-----	-4
	More than 12-----	-5

SHOW CARD #2, 4 oz. CAN

17. Do you prefer large or small sardines?	Large-----	-6
	Small-----	-7

17a. Why do you prefer them? _____ 50-

PROBE

18. About how many inches long are the sardines you like to buy?	_____	---
19. If sardines were processed into a paste spread, do you think you would use such a product...	on crackers?-----	-51-1
	on sandwiches?-----	-2
	as an Hors d'oeuvre?-----	-3
	Other (SPECIFY) _____	---
	Would not use-----	-6

SHOW RESPONDENT CARD #3

20. Which of these scenes on a sardine can is more attractive to you?	Fish scene----	-7
	Marine scene---	-8
21. Were sardines served in your home when you were a child?	Yes-----	-9
	No-----	-10

22. Have you ever gotten sardine recipes or information from a...			
Newspaper advertisement?-----	-52-1	Newspaper food column?-----	-2
Magazine advertisement?-----	-3	Magazine food column?-----	-4
Television advertisement?-----	-5	TV home service program?-----	-6
Radio advertisement?-----	-7	Radio home service program?-----	-8
Friend?-----	-9	Label on the can?-----	-10
Other source (SPECIFY) _____	_____	_____	---

23. Have you ordered sardines in a public eating place during the last two months?	Yes-----	-53-1
	No-----	-2

IF "YES"

23a. How many times have you ordered sardines in a public eating place in the last two months?	1 to 3 times-----	-3
	4 to 6 times-----	-4
	7 to 9 times-----	-5
	10 to 12 times-----	-6
	Over 12 times-----	-7

23b. What kinds of dishes did you order? SPECIFY

23c. Generally speaking, what day of the week did you order sardines in a public eating place?

IF MORE THAN ONE DAY MENTIONED
CIRCLE ALL DAYS MENTIONED

Monday-----54-1
 Tuesday-----2
 Wednesday-----3
 Thursday-----4
 Friday-----5
 Saturday-----6
 Sunday-----7

23d. Generally at what time did you order sardines in a public eating place?

IF MORE THAN ONE TIME MENTIONED,
CIRCLE ALL TIMES MENTIONED

Morning-----8
 Lunch-----9
 Afternoon-----0
 Dinner-----X
 Evening-----Y

24. Besides yourself, has anyone eating with you ordered sardines in a public eating place in the past two months?

Yes-----55-1
 No-----2

IF "YES"

24a. Who was it?

Spouse-----3
 Child-----4
 Friend or other relative---5

25. Sardines packed in what oil do you consider the highest quality? (READ LIST)

Olive oil-----56-1
 Cottonseed oil-----2
 Soy-bean oil-----3
 Sild oil-----4

SARDINES - NON-USER SECTION

ASK OF PEOPLE WHO HAVE NOT SERVED SARDINES IN LAST 12 MONTHS

1. Is there any special reason why you don't serve sardines?

35-

PROBE

2. Did you ever use sardines in the past?

Yes-----36-1
No----- -2

IF "YES" ←

2a. How long ago did you serve them? _____ years

2b. Why did you stop using sardines?

37-

PROBE

ASKED OF PEOPLE WHO SERVED SARDINES IN PAST 12 MONTHS BUT NOT IN PAST 4 WEEKS

3. Why do you use sardines so seldom?

38-

PROBE

4. Did you use sardines more often in the past?

Yes-----39-1
No----- -2

IF "YES" ←

4a. Why have you reduced the number of times you serve them? _____ 40-

PROBE

5. Does anyone living in the house like sardines?

Yes-----41-1
No----- -2

IF "YES" ←

5a. Who likes sardines?

Spouse----- -3
Male child----- -4
Female child----- -5
Other (SPECIFY) _____

CLASSIFICATION DATA

1. MARITAL STATUS:

Marr'ied-----70-1
 Single----- -2
 Widowed, divorced, etc.----- -3

1a. How many people eat dinner at home with you? (CIRCLE ONE)

1 2 3 4 5 6 7 8 9 10 or more
 71-1 -2 -3 -4 -5 -6 -7 -8 -9 -0

IF NOT SINGLE, ASK QUESTIONS 1b AND 1c

1b. How many children eat dinner at home? (CIRCLE ONE)

0 1 2 3 4 5 6 7 8 9 10 or more

1c. What are their approximate ages?

IF MARRIED, ASK QUESTION 1d

1d. What is your husband's job?

Executive, professional, merchant or own business-----72-1
 Clerical or sales personnel----- -2
 Manual skilled, semi-skilled or unskilled worker----- -3
 Retired, unemployed, or student----- -4
 Other (SPECIFY) _____

2. Do you work? Yes-----73-1
 No----- -2

IF "YES," ASK QUESTION 2a

2a. What is your job?

Executive, professional, merchant or own business----- -3
 Clerical or sales personnel----- -4
 Manual skilled, semi-skilled or unskilled worker----- -5
 Retired, unemployed, or student----- -6
 Other (SPECIFY) _____

HAND RESPONDENT CARD #4

3. Would you tell me which letter indicates the age you are? (CIRCLE ONE)

A B C D E
 74-1 -2 -3 -4 -5

HAND RESPONDENT CARD #5

4. Would you tell me into which group your total family income falls? (CIRCLE ONE)

A B C D E
 75-1 -2 -3 -4 -5

5. What was the last grade you completed in school?

Less than 8th-----76-1
 8th through 12th----- -2
 College----- -3

ASKED ONLY OF COLORED HOUSEHOLDS

6. How long have you lived in this city?

1 year or less----- -4
 More than 1 to 5 years----- -5
 More than 5 to 10 years----- -6
 More than 10 to 15 years----- -7
 More than 15 years----- -8

IF LESS THAN 15 YEARS, ASK QUESTION 6a

6a. Where did you come from?

Northern state----- -9
 Southern state----- -0
 Foreign country----- -X

ASK ALL RESPONDENTS

7. Where were you born?

Northern state-----77-1
 Southern state----- -2
 Foreign country (SPECIFY) _____

IF NATIVE BORN

8. Were both of your parents born in this country? Yes-----78-1
 No----- -2

IF "NO"

8a. In what country(e) were they born?

(SPECIFY)
 Father _____
 Mother _____

9. Ten years ago did you live in...

open country,-----79-1
 suburbs,----- -2
 city?----- -3

10. The religious background of a family at times influences eating habits. With what religion is your family most closely associated?

Protestant----- -4
 Catholic----- -5
 Jewish----- -6
 Other (SPECIFY) _____

AUTOMATIC CLASSIFICATION

11. RACE: White-----80-1
 Negro----- -2
 Other non-white----- -3

12. LOCATION OF DWELLING:

City----- -4
 Suburb----- -5

Name _____ Tele. No. _____

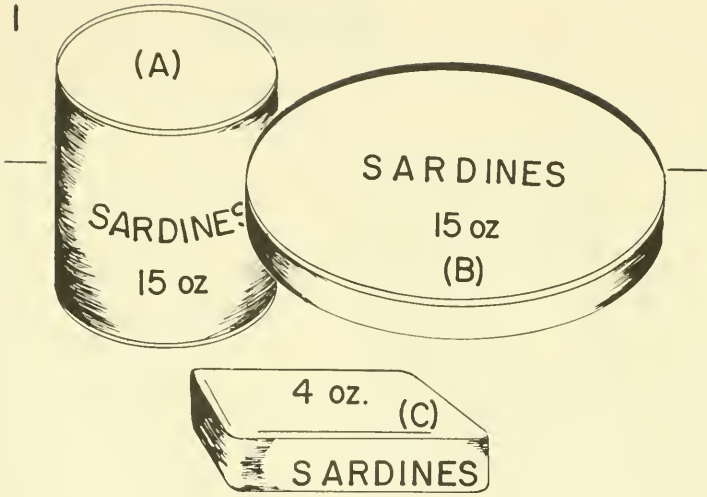
Address _____ City _____ State _____

Interviewer's Signature _____ Date _____

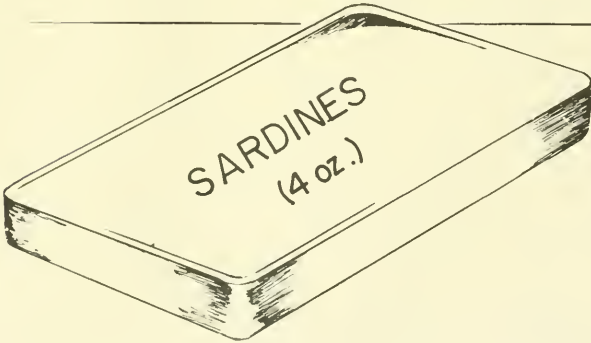
Time Interview Completed:

A.M. _____ P.M. _____

1



2



3



CARD #4

AGE SELECTOR

- A. Under 25
- B. 25 - 35
- C. 36 - 45
- D. 46 - 55
- E. 56 and over

CARD #5

TOTAL FAMILY INCOME SELECTOR

- | | <u>YEARLY</u> | <u>WEEKLY</u> |
|----|--------------------|------------------|
| A. | Under \$2,999 | Under \$57.50 |
| B. | \$3,000 to \$3,999 | \$58 to \$76.50 |
| C. | \$4,000 to \$4,999 | \$77 to \$95.50 |
| D. | \$5,000 to \$6,999 | \$96 to \$134.50 |
| E. | \$7,000 or more | \$135 or more |

MBL WHOI Library - Serials



5 WHSE 00202

