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COLLECTION METHODS IN DIETARY SURVEYS

A Comparison of the Food List and Record in Two Farming Areas in the South

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FOREWORD

This publication reports a methodological study carried out by three of the seven agencies which cooperated in a study of farm family food consumption in three types of farming areas of the South, a project supported in large part by funds made available under the Research and Marketing Act of 1946.

The Bureau of Human Nutrition and Home Economics and the Agricultural Experiment Stations of Mississippi and South Carolina had the major responsibility for the sub-project in which two collection methods in dietary surveys were compared.

The following representatives of other agencies which cooperated in the major project read the manuscript and made helpful suggestions: Beulah Gillaspie, Arkansas Agricultural Experiment Station; Florence MacLeod and Josephine Staab, Tennessee Agricultural Experiment Station; Willamay T. Dean, Virginia Agricultural Experiment Station; and R. L. Anderson, Institute of Statistics, North Carolina State College.

This report on the results and the problems of using different methods of collecting data on family food consumption will be of great assistance in planning efficient use of personnel and other resources in future studies.

R. W. Cummings,
Administrative Adviser

CONTENTS

APPENDIX A TABLES

Table No. Page

MISSISSIPPI

[Households of Negro sharecropper families that include a husband and wife and one or more children aged 2-18 years, Delta Cotton Area, February-April 1948]

SOUTH CAROLINA

COLLECTION METHODS IN DIETARY SURVEYS

A comparison of the food list and record in two farming areas in the South

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INTRODUCTION

This report presents a comparison of family food consumption data obtained by two methods, the record and the food list. The food record makes use of a weighed inventory of foods on hand at the beginning and close of the study, and a day-by-day record, usually for a week, of the weight of food brought into the home. The list-recall (food list) requires that the homemaker recall, with the aid of a detailed list of foods and questioning by an interviewer, the kinds and quantities of all foods used during the week just prior to the interview.

The investigation was undertaken as a sub-project of a study of family food consumption in three types of farming areas of the South made during the late winter and early spring, 1948. The food consumption survey was carried out in five states.[1] In two of the five states, Mississippi and South Carolina, this comparison of methods of data collection also was undertaken.

The food record method was the one used for obtaining weekly data in the Southern Regional Study.[2] During 1948, also, a large-scale investigation of urban families was made by the Bureau of Human Nutrition and Home Economics, using the food-list method.[3] Of the earlier large-scale studies in which the BHNHE participated,

[1] *Family Food Consumption in Three Types of Farming Areas of the South. I. An Analysis of 1947 Food Data.* Dorothy Dickins, Beulah Gillaspie, Ada M. Moser, Josephine Staab, Willamay Dean, Esther F. Phipard, R. L. Anderson. Southern Cooperative Series Bulletin 7. June 1950.

[2] *Family Food Consumption in Three Types of Farming Areas in the South. II. An Analysis of Weekly Food Records, Late Winter and Early Spring, 1948.* Ada M. Moser, Willamay T. Dean, Beulah Gillaspie, Dorothy Dickins, Josephine Staab, Esther F. Phipard, and R. L. Anderson. Southern Cooperative Series Bulletin 20. (In press).

[3] *Food Consumption of Urban Families in the United States, Spring 1948,* Preliminary report No. 5, May 30, 1949; also *Nutritive Value of Diets of Urban Families, United States, Spring 1948, and Comparison with Diets in 1942* Preliminary report No. 12, November 30, 1949, Bureau of Human Nutrition and Home Economics, U. S. D. A.

one (1934-37) used the record method, one (1935-36) used both methods, and one (1941) the list method only.[4]

Food consumption surveys using the record or the list method have usually been designed to serve two purposes: The assessment of food consumption in relation to nutritional needs of large groups of families or individuals that represent important segments of the population, and the measurement of markets for food among population groups. Basic to both of these uses is the need for a technique that can be applied to samples of the population. Other and more precise methods of measuring individual food intake are available.[5] These are not discussed here because they have seldom been applied to large population groups or adapted to the needs of economic analysis.

Methods of obtaining food consumption data from families can differ in at least three respects: The extent to which the memory factor is involved through the lapse of time between the report and the event (purchase, consumption, etc.); the frequency and amount of supervision given the respondent in making the report; and the detail in which the data are reported. The recall-list depends on the respondent's memory, with the nearly complete listing of foods on the schedule and the aid of the interviewer to assist in recalling items consumed that might otherwise be forgotten. The record method calls for daily recording of food brought into the kitchen for family use, although, even when the record is kept daily, it should be realized that there may be some element of "recall" because of the period elapsing between the time the food is brought into the home and the time the record is made. Amounts are recorded in detail, sometimes with menus, but in diary style, rather than with a list to prod the memory. Frequent visits from the enumerator, at least every day except Sunday, provide a large amount of supervision.

Thus, while the present investigation contributes to knowledge of the effect on survey data of the respondent's ability to remember, it is not a test of the memory factor alone. Both the amount of supervision and the method of reporting also affect the quality of the data, and these may vary among investigations using either the recall or the record techniques.

This report presents the results of tests of the differences in data

[4] See *Diets of Families of Employed Wage Earners and Clerical Workers in Cities*, U. S. D. A. Circular 507, 1939; *Family food consumption and dietary levels—Farm series*, U. S. D. A. Miscellaneous Publication No. 405, 1941; *Family Food Consumption and Dietary Levels, Urban and Village Series*, U. S. D. A. Miscellaneous Publication No. 452, 1941; *Family Food Consumption in the United States*, U. S. D. A. Miscellaneous Publication No. 550, 1944.

[5] See *Nutrition Surveys: Their Techniques and Value*, National Research Council, Bulletin 117, 1949.

collected by the list-recall and record methods from each of two population groups. In making these tests, the major purposes of these food consumption surveys have been kept in mind. Accordingly, tests cover differences in the amount of foods consumed, the money value of food from home production and purchased sources, and its nutritive content.

The plan of this investigation called for data collection by the two methods from samples as nearly parallel as possible. In order to reduce the task of testing the parallelism of the samples obtained, the samples were drawn from restricted population groups. The comparison in Mississippi was designed to cover sharecropper families, and because so large a proportion of those interviewed were Negroes, the tabulations have been restricted to the Negro sharecropper group. The South Carolina comparison covers both white and Negro families of farm owners and cash renters. Both the Mississippi and South Carolina respondents were restricted to those families with a husband and wife and one or more children of 2-18 years, with or without other persons.

The Problems of Getting Food Consumption Data from Families

Major problems of getting food consumption data from families can be classed under three general headings: Getting cooperation of the families; keeping collection and tabulation costs to a minimum; and reducing reporting error. The list and record methods can each be assessed in relation to these problems, and a general discussion of each is included here. The basic problem of this investigation, however, is to provide some information for the third.

Cooperation

Obtaining cooperation from all families drawn in a probability sample is one of the major difficulties in family consumption surveys. Some families, especially those in which the homemaker is employed away from home, are difficult to reach. Others will not cooperate. Cooperation may be especially hard to get from high-income families, those with servants, large families, those burdened by care of invalids, or reached under special circumstances as in holiday seasons or when they have guests. To the extent that the more time-consuming record method tends especially to discourage reports from such families, samples are thereby biased by their failure to be represented. It is particularly serious if those omitted have food consumption patterns very different from the average.

Previous investigations have shown that southern rural families are likely to cooperate well in providing interviews, especially when the project is sponsored by a state group. Although these circumstances should have been as favorable as ever could be expected for the use of the record technique, this investigation also showed better cooperation for the list method than the record method. In Missis-

sippi, 5 percent, and in South Carolina, 20 percent of the eligible families did not cooperate in giving records. There were no non-cooperating families in the list study in Mississippi, and 7 percent in South Carolina. The numbers are too small to permit an analysis of the characteristics of the non-cooperating families. This investigation, however, substantiates conclusions from other experiences with the collection of records, namely: That cooperation from all families drawn in the sample is more difficult to obtain with the record than with the list method.

In other parts of the country where interview cooperation is less easily obtained, and especially in cities where many homemakers have paid employment, non-participation from some of the families in giving records might be a larger problem.

Cost

The cost of food-record investigation is a further reason for comparing the data obtained by the two methods. The list method, being less costly, would be preferred, providing the data are sufficiently reliable for the purpose of the investigation.

Interview and travel time is considerably less with the list than with the record method. With the list method a skilled interviewer can usually get the amount of information obtained in this survey at a single visit of from one to two hours. With the record method she is required to visit the home at the beginning and end of the survey period to record the inventories of food on hand, to weigh whatever foods cannot be recorded in standard household units of measure, and at the first visit to instruct the homemaker in her part in keeping the daily records. Besides, the interviewer is expected to visit the home every day except Sunday during the period the record is kept to help record quantities of food brought in during the day, and to weigh food as required.

Processing the data for tabulation is faster and less expensive with the list than with the record. A single quantity (and expense or purchase price) for each food usually is reported on the list for the week. If machine tabulation is used, the data may be punched to tabulating cards directly from the original schedule after editorial entries have been made. In order to arrive at consumption figures for the week by the record method it is necessary, for each food reported, to subtract from the sum of the quantity of the beginning inventory and the quantities brought in during the week, the quantity left at the end of the week as reported at the time of the closing inventory. This summarization is done most satisfactorily with the use of a transcription sheet for each family, with consequent additional clerical hand work, which means that record data cannot be tabulated as expeditiously as can those from the list.

Differences between the two methods as to the qualifications and training required of enumerators are not clear cut. For both methods, skill is needed to get cooperation from the respondent. With the record method, the enumerator's major problem is in maintaining cooperation. With the list method special ability is needed to assist the homemaker in recalling food purchase and consumption for the preceding 7 days, without influencing her response; thus, skill in interviewing is the major need for the food list.

Reporting error

A major consideration in the choice between the record and list methods is the relative accuracy of the data obtained. It has often been assumed that the record method is more accurate because of the respondent's inability to remember and report as required by the food list.

Even though the record method is not subject to reporting error because of the respondent's failure to recall correctly the kinds and quantities of food consumed, data reported by the record method may also differ from the "true" situation, which both methods are attempting to measure. The respondent may forget to record an item. Also, the act of keeping the record may so influence behavior that the data, even though correctly recorded, are not those that the investigation was designed to get.

There is evidence that families do not buy food as usual during the week in which they keep food records, tending rather to eat the foods they have on hand.[6] Whether this affects the quality or cost of the diet during the week is not known. Certainly in a food record covering a much longer period this would necessarily be partially corrected because the inventory would become depleted. The bother of weighing foods, making entries on the food record, and prolonging the interviewer's stay leads the homemaker to reduce her purchases. Changes in food practices may also be made, consciously or unconsciously, because of the presence of an outside observer. Although the interviewer has been instructed to be entirely noncommittal during her visit, she may, nevertheless, show disapproval or approval, in spite of her effort not to do so, and will lead the homemaker to alter her food pattern accordingly.

It is possible also for families interviewed by the list method to underestimate or overestimate quantities, intentionally or otherwise,

[6] Unpublished data collected in a food record study conducted in Birmingham, Alabama, in the spring of 1946, show that 89 percent of the 148 families included in the study had smaller total expenditures for food purchases during the week of the food record than the total cost of purchased food used during the week, an indication that they reduced their food inventories while keeping the record. The average cost per family of food purchases during the week was $10.14, whereas the average cost of purchased food used during the week was $12.67, a difference of $2.53 per family.

under the influence of the interviewer's attitude. However, the respondent has less time to distort the answers during the list interview than over the longer time of the record. Conversely, the interviewer using the list method has less opportunity to detect distortion since she usually has but one contact with the family. The possibilities of bias resulting from distorted reporting or modified consumption should be kept in mind in the analysis of data obtained by either method.

The Design of This Investigation

This methodological study was made for the purpose of testing the similarity of data on family food consumption obtained by the two methods described. The general approach has been to consider the reliability of the data—that is, to determine whether or not there are statistically significant differences between the quantitative data collected with the use of the food list and the food record. Bias has not been examined systematically, but has been explored as differences were discovered in the course of the analysis.

Collection of data

In each of the two States in which the methodological study was conducted, Mississippi and South Carolina, two sets of parallel areas within four counties were selected—in one set the record was used, in the other the list. To provide a basis of comparison, the two groups of families in each of the States were selected according to the same sample design.[7] Other phases of the survey, such as the date of interview and processing schedules, were made parallel insofar as possible for the two groups. The same interviewers collected data on both forms. Thus, to the extent that parallelism of samples was successfully achieved, differences in results may be attributed to the method used.

Analysis

The analysis involved three main steps: first, the actual parallelism of the samples was checked; second, the results obtained from the two collection methods were compared; and finally, such interpretations made and conclusions drawn as the evidence seemed to justify.

The comparisons of the samples and the data from the food record and food lists included averages and distributions involving quantities and expenditures for food in groups, individual food items, and nutrients, family income, family size or household size measured in terms of count of individuals at a specified time, or as measured in terms of some type of "equivalent persons," 21-meal per week equivalent, or nutrition units.

[7] See pp. 16-18, and 23-24, and Methodology pp. 58-61 for description of sample.

Results were considered the "same" if the differences were no greater than might be attributed to sampling error. Even if a survey were repeated using identical procedures, including identical schedule forms, some differences would be expected because of the chance factor of the particular respondents interviewed. Sampling theory provides a means of estimating these expected differences at specified levels of probability. The t-tests[8] which were used in this study to provide evidence on the significance of the differences between means and between proportions are based on the null hypothesis. That is, differences are assumed to be due to sampling variations, and then the probability of this assumption being wrong is measured. The level of probability at which a difference is deemed significant is an arbitrary matter, but the generally accepted convention has been followed of considering 5 percent "significant" and 1 percent "highly significant." Thus when a difference as large as that observed may be expected to occur by chance only five times out of a hundred, that difference is said to be significant; if once in a hundred times, it is highly significant.

The t-tests were applied both to average quantities obtained for all families and for families classified by income; they were also applied to the quantities of foods as combined into the major food groups and in some instances to individual food items (it was not feasible to apply the test to all items—several hundred—recorded).

Analysis procedures tending to reduce the standard error would tend also to increase the significance of a specified difference. A breakdown of all families in the sample into income classes, for example, tends to make each class more homogeneous with respect to

[8] The value "t" is the ratio of the difference between the two means and the standard error of the population. If, as in this study, the standard error of the population is unknown, an estimate may be made by pooling the standard errors of the two samples being tested. (This approximation takes the size of samples into consideration.) The formulae involved are:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{s^2\left(\frac{1}{N_1} + \frac{1}{N_2}\right)}} \quad ; \text{ with degrees of freedom} = N_1 + N_2 - 2$$

$$s^2 = \frac{\Sigma(X_1 - \bar{X}_1)^2 + \Sigma(X_2 - \bar{X}_2)^2}{N_1 + N_2 - 2}$$

Where: X is the value of the item being studied.
$\bar{X}$ is the mean.
s^2 is the pooled variance.
N is the number of cases.
The subscripts 1 and 2 refer to the list and record samples respectively.

food consumption than the whole sample, thus tending to reduce the standard error; but the grouping procedure reduces the number of cases per group, thus tending to increase the standard error. A balance of these two opposing influences determines whether a specified difference is more or less significant for the whole sample than for a selected group within the sample. In the breakdown of a food group into its component food items the average for the food item is based on the same number of cases as for the group—the total families in the cell. In general, the finer the breakdown, the less stable are the averages, and the less are differences expected to be significant.

The differences found to be significant were examined for consistency. If there were a consistent pattern by income level, for example, there would be a greater presumption that they arose from differences in collection method than if there were no such pattern.

Conclusions could be considered clear-cut if for all items and groups of items differences were found to be significant and consistent in pattern. There would then be evidence that the two schedule forms provide different results, at least for the types of families tested. If, on the other hand, no differences were found to be significant, there would then be no evidence that the schedule forms provide different results. Generalizations became more difficult when differences were found to be significant for only scattered items or food groups, at certain income levels. In such instances special attempts were made to find explanations for the differences by bringing to bear a knowledge of the subject matter or of local conditions to discover possibly overlooked problems or non-parallelisms in the samples. When reasonable explanations were not found, the study must be considered inconclusive with respect to those items.

A TEST OF THE USE OF FOOD LISTS AND RECORDS IN THE DELTA COTTON AREA OF MISSISSIPPI

Comparison of the List and Record Samples

The first step in the analysis of the results, as has been said, is to establish the parallelism of the record and the list samples in each of the States. There are two aspects of the samples which may be compared. First, the households that were drawn in the sample segments and which were visited, regardless of whether they furnished schedules may be considered; and secondly, the two groups of families supplying the schedules and forming the basis for this study must be compared, especially with respect to those characteristics which are known or believed to be of particular importance in influencing family food consumption—namely, income, family size and composition, tenure, and race.

There were no differences in the families visited in Mississippi great enough to throw doubt on the similarity of the two samples.

The major differences lay in the proportion of those not included in the study because they were nonfarm families, and the proportion of sharecroppers that were white. There was also some difference in the proportion of families in the two samples that were visited in each of the four counties. Although there were such differences in the two groups of families visited, those who met the conditions set up for inclusion in the study but who did not participate were similar to those who did participate as indicated by ownership of various housing facilities, size of household, and the age and schooling of the heads of the families.[9]

The comparability of the 97 families providing food lists and the 93 providing records, with respect to race and tenure, was provided for through limiting the study in Mississippi to Negro sharecropper families. The similarity of the two samples of respondents with respect to income and to household size was checked by means of the t-test (see tables 1 and 2). No significant income differences between the list and record families were found. The difference in the average household size of all households in the two samples was not significant, and the proportions of members in the various age, sex, and activity groups were similar. When the difference in average household size was computed for families in the various income classes, it was highly significant in one income class—$1,000-$1,499, with the record families reporting the larger size. The record families at this income level had proportionately more children and fewer adults than the list families. No explanation has been found for these differences; but the results at this income level are interpreted in the light of this sample difference.

Information on the year's expenditures for food, unlike the detailed information on the quantities and value of food consumed during the week surveyed, was obtained in the same way from both list and record families. Hence, any difference in the estimates of the year's expenditure would represent a sample rather than a methodological difference. The distributions of families by money expenditures per person for food in 1947, by percent of family income spent for food in 1947, and by money values of home-produced food used at home during the year showed little difference for the list and record families (table 3).

One other factor that might affect the comparability of the results was checked—that relating to timing in the collection. As has been stated earlier, an effort was made to maintain parallelism in all such aspects of the survey as the time of the interviews, processing of schedules, and the like. Interviewing by the two methods proceeded simultaneously, beginning around February 15 and continuing through April. There was some tendency for a greater proportion of the lists than of the records to be collected during April

[9] For further details concerning the sample, see Methodology, pp. 58-61.

(table 4). Since collection was completed so early in the spring, it is doubtful that these differences in timing of interviews resulted in more than slight differences in food consumption reported by families.

Comparison of Results Obtained by List and Record Methods

The three areas of information for which comparisons of record and list data will be made in this section are quantities of food consumed at home, the money value of the food, and its nutritive content. The food lists and records provided information on quantities of food consumed at home, on the money expense for purchased food, and on the number of meals eaten from home food supplies during a week. From these data were derived the total money value and the nutritive content of all food consumed at home (See Methodology pp. --). The three areas of information are closely related. However, the two survey methods may give similar results (averages or distributions) within one or two of these areas but not within the other. Hence the results from the record-list comparisons are analyzed separately for each of these areas, both for broad groups of families and of food items, and for some of the more detailed breaks.

Consumption patterns

Quantities of all food consumed at home.—The comparison of quantities of food consumed has been made chiefly on the basis of consumption of food groups[10] rather than specific foods. Quantities consumed per household were as follows (in pounds):

	List	Record
Milk equivalent	32.22	24.26
Fats, oils	8.03	7.60
Meat, poultry, fish	7.44	8.40
Eggs	1.18	1.59
Dry beans and peas, nuts	2.16	1.79
Potatoes, sweetpotatoes	4.26	3.74
Tomatoes, citrus fruit	3.42	1.40
Leafy, green, and yellow vegetables	3.84	3.04
Other vegetables and fruit	3.93	3.98
Sugars, sweets	7.65	7.56
Grain products (flour equivalent)	24.78	25.05

For only one food group, tomatoes and citrus fruit, is the difference in average consumption reported by the record and the recall-list methods larger than can be attributed to random variation. The list families reported significantly larger quantities than the record families (table 5). Differences between average quantities consumed per household of the other food groups are usually small, and not consistently in one direction.

[10] For classification of food items into food groups see Methodology, pp. 62-65.

When families are classified by annual family income, consumption of several other food groups is shown to be statistically different (with the lists reporting higher amounts in several instances, and records in several others): The food group dry beans, dry peas, and nuts, at several income classes; and eggs and the two staple food groups, sugars and sweets, and grain products at the $1,000-$1,499 income level. Since at this latter income class the size of the household differs significantly for the list and record families, it might be expected that household consumption of staple foods would also differ.

The difference between consumption of the food group, tomatoes and citrus fruit, reported by the two methods has statistical significance, not only for all families but for families at two of the four income classes (table 5). Quantities reported by list families were greater than quantities reported by record families at every income level. There are differences as well in reports of quantities consumed per equivalent person in the household by the two methods, and in the proportion of families consuming this food group (table 6).

Comparison of consumption of the chief components of this food group indicates that the difference is chiefly accounted for by differences in fresh citrus fruit, both in the quantities consumed per household and in the percent of families consuming. The quantities reported by the list families were found to be significantly higher than those reported by record families for the all-income average and for three of the four income classes.

In seeking an explanation for these differences, it was first noted that the percentage of families reporting oranges and the average quantities reported by families interviewed by the record method are in line with reports by the larger sample of Mississippi families, also interviewed by the record method; hence it seems unlikely that the differences arise from unusually low reports through chance variation in the small sub-sample of record families. Another suggestion investigated was that the difference might have arisen through the fact that in the list method families tend to report whole units when food is not weighed, and that amounts are exaggerated in the rounding process. However, evidence was not found to support this as a factor in accounting for the differences.

It may be, then, that this is an instance where the method of collection affected the data reported by families. Possibly, because oranges are highly desired,—a "prestige" food,—the list families tended to overestimate their consumption. However, it is not impossible that record families under-reported their consumption.

Consumption of the food group that includes dry beans and peas is not different statistically when all families are considered, but when families are classified by income some significant differences

in quantities per household are revealed (table 5). There is also a difference in the income-consumption relationship. Average quantities reported by the list method went up as income increased, but average quantities reported by the record method went down as income increased. Consumption of the components of this food group reported by the list method moved in the same direction as for the group as a whole with income changes (table 7). By the record method, however, consumption of dry beans, the major component of the food group as reported by these families, moved in reverse direction from that reported by the list method; dry bean consumption decreased with income increases, although consumption of the other components increased with income increases.

Another recent study by the list method has shown increased consumption of this food group by Southern families as income increases.[11] On the other hand data collected by the record method from the larger sample of Mississippi families simultaneously with these data show a definite decrease in percentage of families consuming dry beans as incomes go up, although the quantities consumed do not show any pronounced change.[12]

If the method of collecting data from this generally low-income group of families on their consumption of dry beans has influenced the reports it would be difficult to tell how or why on the basis of information presently available. Results on this point are inconclusive.

The smaller quantities of eggs consumed and the lower percent having eggs as reported by list than by record families in the one income class—$1,000—$1,499—cannot be attributed to differences in size of households reporting. In addition to the tests of quantities reported per household, consumption per person was computed for these families and when tested revealed differences of approximately equal significance. Reports by the list method by families in this one income class are out of line with reports by the same method from other families as well as with reports by the record method from families with similar incomes. No explanation has been found for the unusual behavior of this group; it may be one of those chance differences that is expected to occur once out of twenty times.

Difference in quantities consumed of the two staple food groups, sugars and sweets, and grain products which were found to be significant at the income class $1,000-$1,499 on a per household basis became negligible when computed and tested on a per person basis.

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[11] *Family Food Consumption in Birmingham, Alabama, Winter, 1948*, Preliminary report No. 1, January 1950, Bureau of Human Nutrition and Home Economics, U. S. D. A.

[12] *Family Food Consumption in Three Types of Farming Areas of the South. II. An analysis of weekly food records, late winter and early spring, 1948.* Ada M. Moser, Willamay T. Dean, Beulah Gillaspie, Dorothy Dickins, Josephine Staab, Esther F. Phipard, and R. L. Anderson.

Quantities of food consumed, by source of food.—In general, the record and list methods gave the same results as to the share of food purchased, home-produced, or obtained as gift or pay. Both groups purchased the major part of all but two food groups. Of these, the milk group and eggs, the major part was home-produced. Small quantities of all food groups were received as gift or pay by both list and record families. Differences in average quantities obtained in each of these by the two groups of families were usually small (table 8).

Although the differences between the two groups of families were too small to be significant, certain points may be noted. The list families' estimates of purchased food during the week were greater than the amounts shown by the record families for nearly every food group. On the other hand, the record families reported more food received as gift or pay. The record families exceeded the list families in the proportion receiving any food as gift or pay as well as in the quantity received.

Money value of food consumed, and expenditures for food

The second area of information with which this investigation is concerned is that of the money value of food consumed, and the expenditures for food. When the value of food consumed at home, the value series corresponding to the quantity series analysed in the preceding section, was compared for the list and record families by means of the t-test, no significant differences were found (tables 9, 10). For two of the three components of home food consumption—food home-produced and food received as gift or pay—a comparison of total value is actually a comparison of total quantity. From the families' estimated or recorded quantities of food from these two sources, values for both records and lists were computed using the same prices. There were no significant differences in the value of home-produced food consumed by list and record families. Although the amounts of food received as gift or pay were consistently higher for record families than list families, no tests were made because the amounts received by both groups of families were relatively small, and it was assumed that the total value of food received without direct expense would show no significant differences.

The most important component of the total value of food consumed at home is that of purchased food eaten at home. Here the method of collection may affect the unit prices as well as the quantities. The t-test was not applied to purchased food eaten at home, but rather to the data showing total expense for food, which also included very small amounts spent for food away from home. Since no significant differences between the list and record families were found, it is assumed that this would also be true for expense for food eaten at home.

It may be noted, however, that at every income level the expense for and the percent of families having food away from home was greater for the record families than for the list families. On the other hand, expense for food eaten at home was greater for the list than for the record families at three of the four income levels. This tendency was fairly persistent among the food groups. The question was raised as to whether the tendency for the list to provide generally higher—though not significantly different—values than the records arose from higher unit values as well as the small but persistent differences in quantities described in the preceding sections. Further examination of the data, however, showed no consistency in the differences in the average prices of the food groups.

Nutritive content of food consumed at home

The nutritive content of food consumed at home as reported by the two methods is strikingly similar, for all families and when families are classified by income (table 12). Statistical tests were made on only three selected nutrients, calcium, vitamin A value, and ascorbic acid (vitamin C). No significant differences were found for these nutrients; therefore, it seems reasonable to assume that there are none for the other nutrients, where the differences and the variation were no larger.

In addition to the comparison of averages for groups of families, the individual families were distributed by the quantity per nutrition unit of each dietary essential (table 13). The pattern of the distributions for the two methods is similar, both showing quite a wide range around the mean for the several nutrients, and with neither method having a consistently greater or smaller proportion of families in the high or low classes.

One reason for selecting ascorbic acid for testing was the significant difference in the quantities of fresh citrus fruit reported by the two methods. Since this nutrient is also generously supplied by vegetables, particularly potatoes and the leafy green vegetables, and these foods were also reported in somewhat greater quantities by the list than by the record families, the list families reported more ascorbic acid in their diets, although the difference was not significant. If all the difference in citrus fruit is attributed to bias, and it is assumed that list families actually consumed no more citrus fruit than the record families reported, the ascorbic acid in the diets of the list families would be reduced to an amount below, but not significantly below that of the record families.

A TEST OF THE USE OF FOOD LISTS AND RECORDS IN THE FLUE-CURED TOBACCO AREA OF SOUTH CAROLINA

Comparison of the List and Record Samples

The methodological study in the Flue-Cured Tobacco Area of South Carolina was designed to cover both white and Negro families and owners and renters rather than Negro sharecroppers as in Mississippi. Almost the same proportion of the families in the list and record samples in South Carolina had the characteristics set up as requirements for inclusion in the samples: namely, that the family include a husband and wife and one or more children from 2-18 years of age and that the family also operated a farm in 1947. Of those who did not meet these requirements among the households visited, a somewhat larger proportion of list than of record families did not meet the farm requirements. Of the farmers, about the same proportion were disqualified because of tenure and family composition. The county distribution of both those visited and those who had the characteristics required for inclusion in the study was quite similar for the two samples. The non-participating families who nevertheless met the requirements for inclusion were found to be similar to the participating.[13]

The comparability of the 80 families providing food lists and the 68 providing records was examined with respect to race, tenure, household size and composition, and income. The proportion of white and Negro, and of owners and cash renters in the two samples was sufficiently alike so that there was little doubt as to their similarity with respect to these factors (table 14). The difference in average size of the list and record households was not significant (table 16), and similar proportions of the members fell in the various age, sex, and activity groups. At income level 0-$499, however, the list households were significantly larger than the record households, and the proportion of children somewhat larger. At income level $500-$999 the record households were significantly larger than the list, although the family composition was similar. The average income also differed for the list and record families (table 15). The average for the record families was $2,307, for list families $1,646; the difference between the two was highly significant.[14] The average income for

[13] For further details concerning the sample, see Methodology, pp. 58-61.

[14] It has been suggested that longer contact with record families may have resulted in establishing such confidence in the interviewer that families were willing to give more complete income data than could be obtained in one or two interviews with list families. Not only may good confidential relationships be established with cooperative record families, but during the daily visits incidental comments may lead to information as to "other" sources of income that might not otherwise come to light. This factor would be more operative among the white and Negro owners and cash tenants in South Carolina than among the Negro sharecroppers of Mississippi because it is the property owning and upper income families from whom it is most difficult to obtain income data.

the record families in the income range $2,000-$2,999 was likewise significantly higher than for the list families. Related to the higher average income of the record families was the fact that a greater proportion of them received some income from nonfarm sources, 71 percent as compared with 54 percent of the list families. Another related difference is the significantly greater percentage of the record families spending $600 or more for food used at home in 1947 (table 17). The money value of home-produced food used in 1947, less closely related to income, showed no significant differences.

These particular differences in income and family size and composition must be taken into account in the interpretation of the results. Because of them, greater emphasis is given to techniques of comparison that hold income and family size constant than was necessary in the Mississippi analysis.

A somewhat greater proportion of the records than of the lists were obtained during the early weeks of the collection period, but it is believed that the differences in timing affected the results only to a slight extent (table 18).

Comparison of Results Obtained by List and Record Methods

The same three areas of information were investigated in the comparison of the South Carolina families as was done for the Mississippi families: The quantities of food consumed at home by household members, the money value of the food, and its nutritive content.

As was pointed out in the preceding section, the families interviewed by the two methods differed in average income for all families and for those at the income level $2,000-$2,999, and in household size in the two $500-income classes under $1,000. Therefore the groups in the two samples that are most directly comparable are those in the three income classes $1,000-$1,499, $1,500-$1,999, and $3,000 and over. These facts have been taken into account in the following analyses.

Consumption patterns

Quantities of all food consumed at home.—Consumption of the 11 food groups by list and record families was compared by means of statistical tests. When the t-test was applied in the three income classes directly comparable without adjustment for household size or income differences, only one of the food groups—fats and oils—showed a significant difference at one of the income levels—$3,000 and over, with the list families reporting higher quantities (table 19). At the other income levels, however, higher quantities of fats and oils were reported by the record families, and, since no explanation has been found for the relatively large difference at only one income level, it is assumed to be a chance difference. At the two income levels in which household size had been found to be significantly different, t-tests were made on a per person basis for two groups of

foods which showed a significant difference on the basis of household averages and for four groups of foods in which the differences tended to be increased rather than reduced when averages were computed on a per person basis. The tests revealed only one significant difference in quantities reported by the two methods. This was in the quantities of the foods classified as "other vegetables and fruit," reported by families in the lowest income class, with the record families reporting the larger amounts.

One other significant difference at one income class level was found, namely tomatoes and citrus fruit in the $2,000-$2,999 class. List families reported higher quantities than did record families, even though the list families had lower incomes on the average.

No significant differences were found in the average quantities consumed by all list and all record families. To determine whether the higher income of the record families covered up methodological differences, averages standardized for income were compared. None of the differences in consumption between the list and record families proved to be significant when the income difference was thus taken into account.

With only two or three isolated instances of significant differences revealed by the t-tests, the evidence would seem to point to the conclusion that for this group of families the list and the record methods would yield the "same" results with respect to estimates of quantities consumed of the major food groups. In studying the data, however, several questions were raised which led to further examination of the basic material and suggested some of the problems encountered in using the two methods.

The first of these points suggested by examining the data for differences that may be indicative of problems, even though they are not significant differences, is the slightly higher meat consumption reported by the record families. There was an associated tendency for the record families to report a greater variety of types of meat consumed than the list families. There seemed to be no way of judging, however, whether these differences arose from a persistent failure of the list families to report all items of meat consumed during the survey week, or whether, perhaps, the record families were changing their food patterns to conform to what were believed to be expected practices; or whether—especially in view of the fact that the differences were not significant—the consistency of the direction of the difference was merely a chance phenomenon.

A second point that was noted was the fact that the list families reported larger quantities of the five food groups that include various kinds of vegetables and fruit (potatoes, sweetpotatoes; tomatoes, citrus fruit; leafy, green, and yellow vegetables; other vegetables and fruit; dry beans and peas, nuts). Although none of these quantity differences, as has been said, were significant, the cumulative

effect was to lead to a significant difference in the ascorbic acid content of the diet (see below, p. 28). The fact was also noted that particularly in the case of potatoes and sweetpotatoes, the median values, and the distribution of families by quantities consumed were very similar for the two sets of families, although the difference in the averages was considerable (though not significant) indicating a relatively few very high reports from list families (table 20).

Several explanations may help to account for the consistently larger, though not significantly different, quantities of vegetables and fruit reported by the list method. These relate to the method of collecting the data.

One possibility is that there was more complete reporting by the record method than by the list method of food not actually eaten by household members, for which deductions were made prior to tabulating food quantities (see Methodology, p. 63). By the record method such entries were required for each day of the week, whereas by the list method a one-time entry of all food not eaten was made at the end of the week of the study. Because of the nature of the data to be reported (food used as feed for animals, food discarded from plates, serving dishes, and cooking utensils), it seems reasonable to suppose that a daily record involving the memory factor for one day only would result in more complete reporting than an entry involving memory of a week's practices.

A second explanation of the differences in quantities reported by the two methods may lie in differences in the amount of inedible refuse included in the weight reported. Interviewers were instructed to cut off inedible tops of vegetables, wherever possible, before weighing them for the record. By the list method, however, interviewers were not instructed to try to get reports of weights of vegetables specifically without tops. Consequently it is likely that weights of vegetables reported by the list method include a higher proportion of inedible refuse than those by the record method. This might be true of other vegetables and fruit, as well. For example, it was noted that reports of sweetpotatoes by the list method were usually in pecks or bushels. By late winter and early spring, home-produced sweetpotatoes in South Carolina are usually of poor quality and low in yield of edible material. The year of this survey was a particularly bad one for sweetpotatoes; from experimentation it has been established that as much as 25 percent of the weight may have been inedible refuse. On the other hand, in reporting consumption of sweetpotatoes by the record method it is likely that the unusable sweetpotatoes would have been excluded from the weight reported as used. Also, an editorial assumption may have furthered the discrepancy between the two methods. If the interviewer failed to specify whether vegetables were with tops or without, it was usually

assumed that a weight without tops was proper. Such omissions were more likely to occur on the list than on the record.

A third explanation relates to the units in which consumption of fruits or vegetables are reported on the food list. In the first place, when consumption is reported by number of units rather than by weight or size of container, average weights by size of unit are then used by editors in computing the total weights. The comparative size of the units, such as large, medium, or small, is specified by the interviewer; when omitted, the weight of the medium size is used in computing the weight. This procedure may result in overestimation or underestimation of weights during editing. In the second place, when consumption is reported in such relatively large units as pecks or bushels, there may be a tendency to express quantities in upward-rounded figures. There is evidence that in this study some overestimation of weights occurred. Since the number of families is small, the averages are affected more than would be true in a larger study.

These points suggest some of the precautions to be observed in making food consumption surveys and indicate the necessity for especially careful training and alert supervision of interviewers and editors. The pretesting of schedules in the area in which they are to be used should be helpful in disclosing special difficulties that could be guarded against.

Quantities of food consumed, by source of food.—Reports by the two methods did not differ much with respect to relative amounts of food purchased, home produced, or received as gift or pay. Tests of significance were not made, but it was observed that both groups of families reported having obtained the major part of their food of animal origin through home production rather than purchase, and the larger share of grain products, sugars and sweets, and all but two of the vegetable and fruit groups by purchase. For these latter two food groups—potatoes and sweetpotatoes and leafy, green, and yellow vegetables—the list families reported larger quantities from home production than were purchased, whereas the record families reported larger purchases (table 22).

Food received as gift or pay was reported in fairly small quantities by both methods; potatoes and sweetpotatoes obtained in this way represented a larger proportion of the total consumption than of any other food group for both sets of families.

Money value of food consumed, and expenditures for food

The money value of all food consumed at home, which corresponds to the quantities analyzed in the preceding section, was not significantly different for the list and record families. Nor was the value of home-produced food, one of the major components of food

used at home, significantly different. The t-test was not applied to expenditures for food at home but to total expenditures for food at home and away. These tests revealed no significant differences; and, since expense for food away from home represented a fairly small part of total expenditures, it is probable that expense for food at home is not significantly different (tables 23, 24).

Expenditures for food used at home during the week, obtained by the two methods, were distributed among the several food groups for these families (table 25). For two food groups consistent differences are shown: The record families show a consistently larger proportion of expenditures going to grain products and a consistently smaller proportion spent on sugars and sweets than the list families. Examination of the data shows that the difference in expenditures for the grain products group is a quantity difference only and not a difference in unit value. The record families at all income levels purchased larger quantities of grain products than the list families. For the sugars and sweets group, however, there was no consistent directional difference in quantities, but a consistently higher unit value was reported by the list families at all income levels. Since candy is a relatively high-priced sweet, reports on this food were examined in detail to see to what extent this food was responsible for the difference in unit value for the food group. Considerable differences were found in the reports on candy consumption by the two methods, in all respects, i.e., in quantities per household, unit value, and proportion of families consuming.[15] Data reported by the list method are similar to data collected by the list method from the Mississippi Negro sharecroppers and from farm families in Minnesota, while the data reported by the record method are similar to those collected by the record method in the other Southern States cooperating in the major study. It seems possible that candy is an item that tends to be omitted when the record method is used.

Nutritive content of food consumed at home

For all nutrients except vitamin A value and ascorbic acid there is little or no difference between the average nutritive content per nutrition unit per day of food consumed at home as reported by the two methods (table 26). The greatest difference is in ascorbic acid, which was found to be of statistical significance. The difference in vitamin A value, while sizable, is not significant. The difference in both vitamins results from the cumulative effect of greater consumption by the list families of several food groups which are good

[15] For the 80 list families and the 68 record families included in this comparison, reports on candy consumption were as follows, respectively: Quantity per household, 0.38 lb., 0.12 lb.; expense per household $0.21, $0.04; percent of families consuming, 45, 9; price per pound, $0.55, $0.35.

sources of both.[16] The small difference in calcium, the only other nutrient to which the t-test was applied, was not significant.

When families are classified by income, the averages for ascorbic acid are generally higher for the list than for the record families, but significantly higher for only one income class $2,000-$2,999. Significant differences did not appear at any income class for either vitamin A value or for calcium, the other two nutrients which were tested. No continuing pattern of differences appeared for any of the other nutrients.

Families were also distributed by quantity per nutrition unit of each dietary essential (table 27). The most pronounced differences in the patterns of distribution by method of collection are apparent in vitamin A value and ascorbic acid. For both of these vitamins larger proportions of the list families fall in the highest and lowest classes than of the record families.

CONCLUSIONS

This investigation has demonstrated that for the groups of families covered, both methods of obtaining food consumption data—the list method and the record method, provided, in general, the same results. Differences of statistical significance appeared for only a few items or food groups; and such differences were scattered among the different types of food data obtained—quantities, money values, and nutritive values. In some instances in which the differences were significant, the list figures were larger than the record figures, and in others the record figures were the larger. Certainly no clear-cut evidence that the two schedule forms provide different results emerged.

The data were examined with a view to seeking an explanation for differences that did appear—not only those differences that were statistically significant, but also those involving patterns of differences that were not large enough to be significant in themselves, but which might have arisen, it was believed, from a methodological factor. Because these instances have been pointed out and discussed at some length in this report, an erroneous impression of their number and importance may have been given. For most of the food groups or food items tested, and the nutrients in the diet, the differences found between the averages obtained by the two methods were probably due to random variation. The instances discussed are important chiefly because they suggest some of the pitfalls and prob-

[16] Food composition values used in computing nutritive content of the diets allow for average quantities of inedible refuse. To whatever degree the family's food included unusually large amounts of inedible refuse (as in the case of sweetpotatoes mentioned above) or to whatever extent an editorial assumption that vegetables were without tops (if unspecified) was incorrect, the nutritive content of the diets was overestimated (see above, p. 26).

lems encountered in the conduct of food consumption surveys by both the recall-list and record methods.

It is suggested, for example, that consumption of food items of high "prestige" value in the minds of the respondents may tend to be overestimated. The list families in Mississippi reported significantly larger consumption of oranges, a fruit with high prestige value than did the record families. No other explanation was found, and although the point can certainly not be said to be proved, it has not seemed unreasonable to suggest that this was a case in which families overstated their consumption, reporting as fact what they wished or knew to be desirable. The prestige factor may, of course, operate when the record method is used, as was pointed out in the introduction, through a change in the family's food practices during the week in which records are kept; but this situation would be difficult to detect—and no such instance was detected in this investigation.

The list method is subject to errors of recall, which may result in over- or understatements of amounts consumed. The record method is more subject to understatements through possible omissions (disregarding the problem arising from the possible change in food practices from what they would have been without the recording process, which might lead either to increased or to decreased amounts). An example of a food group that appeared to be understated by the record method because of failure to report an item was found in the South Carolina group of families whose reports of sugars and sweets were lower than list families, perhaps because of low-recorded amounts of candy.

The list method particularly is subject to certain types of errors which, though avoidable, may occur unless there is very careful training of the enumerators and an awareness on the part of the supervisors of the kinds of problems that might arise under special local conditions. This point is illustrated by the findings with respect to fruits and vegetables in the case of the South Carolina list families. Consistently larger, though not significantly different, consumption of vegetables and fruits was reported by the list method, which had the cumulative effect of indicating a significantly larger amount of ascorbic acid in the diets of the list than the record families. Upon examination it was found that part of the differences in quantities of these foods resulted from differences in administering the two methods. Instructions on whether to include or exclude from the weight of vegetables the weight of inedible tops and other inedible refuse were not identical for the two methods. Other differences may have arisen through problems relating to the use of average figures for inedible refuse and nutritional values; through the applications of inappropriate average weights to items reported by the list families in terms of units, or through failure to report food

not actually eaten by household members so that proper deductions of quantities could be made. These are types of problems which illustrate some of the special difficulties involved in administering the list method, but which are not inherently insoluble.

Scattered instances of significant differences besides the most striking ones cited above—citrus fruit and tomatoes in the Mississippi area and ascorbic acid in the South Carolina area—were found for some food groups or food items at certain income levels. They were not sufficient, however, to lead to any additional conclusions as to the relative reliability or special administrative problems of the two methods.

Although it may be stated that for these groups of families the list and record methods of obtaining data on food consumption and dietary adequacy give, on the whole, equally reliable results, it cannot be concluded that this would also be true for all population groups. The groups covered in this investigation were rural families. Moreover, although one group comprised only Negro sharecroppers, and the other white and Negro owners and renters, both groups had relatively low money incomes as compared with most families in the United States. It would be difficult to argue convincingly that the types of bias to which the two methods of collection are subject would be more or less likely to lead to significant differences if tested in urban areas, in other regions, or in other seasons. It might be supposed, for example, that since families with higher incomes would consume a greater variety of foods, this would lead to less accurate reporting by the recall method than when the number of items is fewer. On the other hand, urban families who purchase most of their food would not have the problems encountered in this study of reporting the actual yield of edible food from home gardens. Moreover, at higher income levels the average level of education would be higher, and perhaps the recall method would be more rather than less satisfactory.

APPENDIX A

Table 1.—MISSISSIPPI—INCOME: Distribution of families by net income in 1947, average per family, with standard errors, by income and method of collection.

[Households of Negro sharecropper families that include a husband and wife and one or more children aged 2-18 years, Delta Cotton Area, February-April 1948]

Net income class 1947 and method of collection	Families in each income class		Net income 1947	
	Number	Percent	Average per family[1]	Standard error
All classes:				
List	97	100	$987	$64
Record	93	100	865	49
Under $500:				
List	17	18	379	21
Record	22	24	350	27
$500-$999:				
List	44	45	726	20
Record	40	42	731	21
$1,000-$1,499:				
List	21	22	1,183	26
Record	22	24	1,208	31
$1,500 and over:				
List	15	15	2,170	171
Record	9	10	1,880	94

[1] Significance of the difference between average income values for the two methods was tested at each income class by use of t-tests. No significant differences were found. See p. 15 for description of test.

Table 2.—MISSISSIPPI—HOUSEHOLD SIZE DURING WEEK: Average number of persons per household, with standard errors, by income and method of collection.

[Households of Negro sharecropper families that include a husband and wife and one or more children aged 2-18 years, Delta Cotton Area, February-April 1948]

Net income class 1947 and method of Collection	Number of households	Household size during week, in equivalent persons[1]	
		Average per household[2]	Standard error
All classes:			
List	97	5.90	0.25
Record	93	6.12	.25
Under $500:			
List	17	5.45	.75
Record	22	5.54	.45
$500-$999:			
List	44	5.72	.32
Record	40	5.38	.34
$1,000-$1,499:			
List	21	5.03**	.35
Record	22	7.43	.44
$1,500 and over:			
List	15	8.17	.63
Record	9	7.66	1.14

** Difference from record average significant at the 1 percent probability level.

[1] Equivalent persons per household is derived by dividing the number of meals served from family food supplies by 21.

[2] Significance of the difference between average household size for the two methods was tested at each income class. Significant differences, were found only where indicated by asterisks. See p. 15 for description of test.

Table 3.—MISSISSIPPI—FAMILY CHARACTERISTICS IN 1947: Distributions by family and household size, expenditures for food used at home, and money value of home-produced food by method of collection.

[Households of Negro sharecropper families that include a husband and wife and one or more children aged 2-18 years, Delta Cotton Area, February-April 1948]

Selected family characteristics in 1947	Families, by method of collection			
	Number		Percent	
	List	Record	List	Record
Family size (in year-equivalent persons):[1]				
1.50-3.49	20	21	21	23
3.50-5.49	31	23	32	25
5.30-7.49	27	24	27	26
7.50 or more	19	25	20	26
Household size (in year-equivalent persons):[1]				
1.50-3.49	20	23	21	25
3.50-5.49	32	21	33	23
5.50-7.49	26	26	26	27
7.50 or more	19	23	20	25
Expenditures for purchased food used at home (in dollars):				
Under 200	10	11	10	12
200-399	59	59	61	63
400-599	21	15	22	16
600 or more	7	8	7	9
Value of home-produced food (in dollars):[2]				
Under 100	21	23	22	25
100-399	56	57	57	61
400-699	17	12	18	13
700-999	3	1	3	1

[1] A year-equivalent person is equal to one person in the family or household for 52 weeks. All persons (members of family and others) who had meals 1 month or more with the family during 1947 were included as members of the household.

[2] See Methodology, p. 66, for method of valuing food not purchased.

Table 4.—MISSISSIPPI—DATES OF COLLECTION: Distribution of schedules collected in bi-weekly periods, by method of collection.

[Households of Negro sharecropper families that include a husband and wife and one or more children aged 2-18 years, Delta Cotton Area, February-April 1948]

Method of collection	All schedules	Date of schedule				
		February 16-29	March 1-15	March 16-31	April 1-15	April 16-30
		Number of schedules				
List	97	24	23	21	25	4
Record	93	19	32	28	10	4
		Percent of total				
List	100	25	24	22	25	4
Record	100	20	35	30	11	4

Table 5.—MISSISSIPPI—QUANTITIES OF FOOD GROUPS PER HOUSEHOLD: Average quantities of food groups consumed at home in a week per household, with standard errors, by income and method of collection.

[Households of Negro sharecropper families that include a husband and wife and one or more children aged 2-18 years, Delta Cotton Area, February-April 1948. See Methodology for classification of foods by food groups]

Net income class 1947 and method of collection	Number of households	Milk equivalent	Fats, oils	Meat, poultry, fish	Eggs	Dry beans and peas, nuts	Potatoes, sweet-potatoes	Tomatoes, citrus fruit	Leafy, green, yellow vegetables	Other vegetables and fruit	Sugars, sweets	Grain products (flour equivalent)
All classes:		Quantity per household[1] (in pounds)										
List	97	32.22	8.03	7.44	1.18	2.16	4.26	3.42**	3.84	3.93	7.65	24.79
Record	93	24.26	7.60	8.40	1.59	1.79	3.74	1.40	3.04	3.98	7.56	25.05
		Standard error (in pounds)										
List	97	3.82	0.41	0.51	0.14	0.24	0.62	0.39	0.48	0.43	0.49	1.23
Record	93	2.62	.35	.70	.20	.18	.72	.21	.32	.53	.42	1.10
Under $500:		Quantity per household[1] (in pounds)										
List	17	13.05	5.97	5.48	0.90	0.94**	2.50	1.56	3.05	2.23	5.16	24.87
Record	22	17.62	7.19	6.71	1.20	2.04	3.16	.98	2.84	3.87	6.01	20.29
		Standard error (in pounds)										
List	17	3.95	1.01	0.82	0.19	0.27	0.98	0.39	0.69	0.62	0.68	3.06
Record	22	4.22	.59	.90	.26	.28	.75	.29	.56	1.17	.81	1.71
$500-$999:		Quantity per household[1] (in pounds)										
List	44	31.70	7.82	7.10	1.33	2.08	4.53	3.97**	3.35	3.57	7.83	23.18
Record	40	22.46	6.74	7.09	1.30	1.75	4.05	1.35	2.33	3.09	7.12	23.50
		Standard error (in pounds)										
List	44	5.01	0.55	0.87	0.23	0.32	1.19	0.64	0.61	0.51	0.70	1.60
Record	40	4.38	.45	.74	.30	.26	1.54	.27	.43	.72	.54	1.64
$1,000-$1,499:		Quantity per household[1] (in pounds)										
List	21	30.60	7.93	7.97	0.67**	2.36	4.40	3.13	3.58	4.62	6.00*	22.08**
Record	22	37.80	8.97	9.71	2.35	1.96	3.21	1.78	3.64	5.20	9.01	30.78
		Standard error (in pounds)										
List	21	6.40	0.65	0.82	0.21	0.42	0.80	0.89	0.90	1.10	0.75	2.33
Record	22	5.33	.82	1.48	.54	.45	.77	.63	.66	1.34	.91	2.13
$1,500 and over		Quantity per household[1] (in pounds)										
List	15	57.72	11.09	9.90	1.79	3.66*	5.27	4.32*	6.54	5.93	12.23	33.17
Record	9	15.38	9.00	15.18	1.99	.89	5.08	1.72	5.21	1.94	9.98	29.52
		Standard error (in pounds)										
List	15	15.62	1.37	1.34	0.42	0.97	1.16	0.83	2.01	1.54	1.42	3.83
Record	9	4.93	1.59	4.40	.60	.51	1.47	.39	1.51	1.02	1.58	4.15

* Difference from record average significant at the 5 percent probability level.
** Difference from record average significant at the 1 percent probability level.
[1] Significance of the difference between average quantity per household for the two methods was tested at each income class. Significant differences were found only where indicated by asterisks. See p. 15 for description of test.

Table 6.—MISSISSIPPI—QUANTITIES OF FOOD GROUPS PER PERSON: Percent of households consuming specified quantities of food groups at home in a week per person, by method of collection.

[Households of Negro sharecropper families that include a husband and wife and one or more children aged 2-18 years. Delta Cotton Area, February-April 1948. See Methodology for classification of foods by food groups]

Consumption of food groups at home in a week per person[1]	List	Record
	Percent	Percent
Milk, cream, ice cream, cheese, in quarts of whole fluid milk equivalent:		
None	5	10
0.1-0.9	28	32
1.0-1.9	21	17
2.0-2.9	17	17
3.0-3.9	6	9
4.0-4.9	6	6
5.0-5.9	5	4
6.0-6.9	4	3
7.0 or more	8	2
Fats and oils, in pounds:		
None	0	0
0.1-0.4	0	4
0.5-0.9	20	13
1.0-1.4	33	47
1.5-1.9	29	24
2.0-2.4	16	9
2.5 or more	2	3
Meat, poultry, fish, in pounds:		
None	3	4
0.1-0.4	14	11
0.5-0.9	17	25
1.0-1.4	27	17
1.5-1.9	20	9
2.0-2.9	10	24
3.0-3.9	6	4
4.0-4.9	1	3
5.0 or more	2	3
Eggs (number):		
None	33	28
0.1-0.9	8	14
1.0-1.9	22	16
2.0-2.9	14	11
3.0-3.9	8	4
4.0-4.9	8	11
5.0-5.9	4	2
6.0-7.9	1	8
8.0 or more	2	6
Dry beans and peas, nuts, in pounds:		
None	18	25
0.01-0.24	24	22
0.25-0.49	33	29
0.50-0.74	14	14
0.75-0.99	4	6
1.00 or more	7	4

See footnote at end of table.

Table 6.—MISSISSIPPI—QUANTITIES OF FOOD GROUPS PER PERSON: Percent of households consuming specified quantities of food groups at home in a week per person, by method of collection. (Continued)

[Households of Negro sharecropper families that include a husband and wife and one or more children aged 2-18 years, Delta Cotton Area, February-April 1948. See Methodology for classification of foods by food groups]

Consumption of food groups at home in a week per person[1]	List	Record
	Percent	Percent
Potatoes, sweetpotatoes, in pounds:		
None	31	41
0.1-0.9	37	33
1.0-1.9	23	19
2.0-2.9	5	4
3.0-3.9	2	2
4.0 or more	2	1
Tomatoes, citrus fruit, in pounds:		
None	24	40
0.1-0.4	28	45
0.5-0.9	28	12
1.0-1.4	9	2
1.5-1.9	8	1
2.0 or more	3	0
Leafy, green, yellow vegetables, in pounds:		
None	34	28
0.1-0.4	18	23
0.5-0.9	19	33
1.0-1.4	13	11
1.5-1.9	9	2
2.0 or more	7	3
Other vegetables, fruit, in pounds:		
None	24	27
0.1-0.9	50	48
1.0-1.9	19	15
2.0-2.9	5	3
3.0-3.9	1	2
4.0 or more	1	5
Sugars, sweets, in pounds:		
None	1	0
0.1-0.4	8	6
0.5-0.9	18	32
1.0-1.4	36	26
1.5-1.9	21	19
2.0-2.4	8	12
2.5-2.9	6	2
3.0 or more	2	3
Grain products (flour equivalent), in pounds:		
1.0-1.9	1	0
2.0-2.9	16	17
3.0-3.9	29	31
4.0-4.9	25	25
5.0-5.9	22	16
6.0-6.9	4	9
7.0 or more	3	2

[1] Equivalent person per household. Derived by dividing the number of meals served from family food supplies by 21.

Table 7.—MISSISSIPPI—QUANTITIES OF SELECTED FOODS: Average quantities of selected foods consumed at home in a week per household, with standard errors, by income and method of collection.

[Households of Negro sharecropper families that include a husband and wife and one or more children aged 2-18 years, Delta Cotton Area, February-April 1948]

Net income class 1947 and method of collection	Number of households	Lard and other shortening	Salt pork	All other pork	Fish			Dry beans	Dry peas	Tomato puree, paste, sauce	Citrus fruit, fresh	Peaches, canned	Flour, enriched		Corn meal	Grits	Rice
					Fresh, frozen	Canned							White, plain	Self-rising			
						Salmon	Other										
All classes:		Quantity per household[1] (in pounds)															
List	97	3.94	2.59	2.37*	1.75	0.42	0.23**	0.86	0.96	0.48	2.06**	1.00	3.87	7.92**	8.80	0.34	1.59
Record	93	3.71	2.22	3.62	1.52	.51	.62	.93	.74	.39	.36	.75	3.00	11.05	8.27	.15	1.43
		Standard error (in pounds)															
List	97	0.20	0.24	0.28	0.28	0.10	0.06	0.16	0.14	0.08	0.33	0.17	0.69	0.79	0.59	0.18	0.16
Record	93	.20	.26	.51	.33	.12	.13	.13	.11	.12	.12	.16	.70	.84	.52	.04	.15
Under $500:		Quantity per household[1] (in pounds)															
List	17	3.64	1.94	1.97	1.19	0.51	0.24	0.44*	0.29	0.18	1.05*	0.44	2.94	8.85	9.44	0.17	1.32
Record	22	3.20	2.63	2.62	1.11	.64	.32	1.37	.56	.19	.13	.40	1.17	9.84	6.86	.09	1.02
		Standard error (in pounds)															
List	17	0.44	0.65	0.59	0.63	0.32	0.10	0.17	0.14	0.08	0.39	0.21	1.24	1.89	1.96	0.12	0.31
Record	22	.33	.54	.69	.53	.26	.11	.29	.16	.10	.09	.18	.81	2.45	.76	.07	.22
$500-$999:		Quantity per household[1] (in pounds)															
List	44	3.88	2.55	2.05	1.90	0.34	0.26*	0.85	0.98	0.46	2.67**	1.08	4.36	7.06**	7.66	0.27	1.60
Record	40	3.61	1.68	3.31	1.42	.15	.86	.93	.77	.28	.42	.92	1.75	11.58	7.68	.14	1.33
		Standard error (in pounds)															
List	44	0.30	0.35	0.35	0.45	0.11	0.09	0.25	0.21	0.11	0.60	0.27	1.20	1.03	0.65	0.14	0.24
Record	40	.27	.27	.64	.49	.05	.26	.19	.16	.08	.19	.26	.68	1.26	.84	.06	.20
$1,000-$1,499:		Quantity per household[1] (in pounds)															
List	21	3.35	3.24	2.15	1.86	0.41	0.21	0.99	0.95	0.56	1.67	1.15	4.33	6.09	8.14	0.17	1.32
Record	22	3.90	2.48	3.71	1.69	1.00	.63	.65	1.12	.77	.58	.91	7.88	9.56	10.39	.09	1.61
		Standard error (in pounds)															
List	21	0.25	0.47	0.66	0.59	0.13	0.17	0.35	0.27	0.19	0.62	0.44	1.38	1.53	0.89	0.14	0.31
Record	22	.49	.57	.73	.63	.40	.22	.29	.29	.46	.37	.41	2.31	1.91	1.14	.07	.32
$1,500 and over:		Quantity per household[1] (in pounds)															
List	15	5.28	2.55	4.03	1.80	0.56	0.19	1.17	1.67*	0.72	1.97*	1.16	2.80	11.95	12.35	0.97	2.23
Record	9	4.96	2.99	7.24	2.57	.58	.21	.51	.11	.46	.09	.46	1.10	15.32	9.14	.49	2.44
		Standard error (in pounds)															
List	15	0.69	0.70	0.94	0.66	0.36	0.13	0.57	0.49	0.27	0.66	0.44	1.39	2.60	1.91	0.66	0.46
Record	9	.77	1.37	3.73	1.69	.31	.21	.36	.11	.33	.09	.46	1.10	3.12	1.78	.30	.76

* Difference from record average significant at the 5 percent probability level.

** Difference from record average significant at the 1 percent probability level.

[1] Significance of the difference between average quantity per household for the two methods was tested at each income class. Significant differences were found only where indicated by asterisks. See p. 15 for description of test.

Table 8.—MISSISSIPPI—QUANTITY OF FOOD GROUPS BY SOURCE: Average quantities of food groups consumed at home in a week that were purchased, home-produced or received as gift or pay per household, by method of collection.

[Households of Negro sharecropper families that include a husband and wife and one or more children aged 2-18 years, Delta Cotton Area, February-April 1948. See Methodology for classification of foods by food groups]

Method of collection	Households	Milk equivalent	Fats, oils	Meat, poultry, fish	Eggs	Dry beans and peas, nuts	Potatoes, sweet-potatoes	Tomatoes, citrus fruit	Leafy, green, yellow vegetables	Other vegetables and fruit	Sugars, sweets	Grain products (flour equivalent)
	Number	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
		Average quantity purchased										
List	97	7.65	4.35	4.79	0.17	1.74	3.91	3.02	2.76	1.99	7.38	22.69
Record	93	5.95	3.92	4.42	.15	1.56	3.56	1.29	1.50	2.60	7.18	23.33
		Average quantity produced at home										
List	97	21.16	3.48	2.38	0.98	0.35	0.29	0.39	0.73	1.81	0.24	2.07
Record	93	14.23	3.88	2.87	1.33	.20	.13	.11	.88	1.20	.32	1.59
		Average quantity received as gift or pay										
List	97	3.41	0.19	0.27	0.03	0.08	0.06	0.01	0.35	0.13	0.03	0.03
Record	93	4.08	.30	1.11	.11	.03	.05	.01	.66	.17	.06	.18

NOTE: The sum of the quantities shown in this table by source may differ from the total shown in table 5 because of rounding.

Table 9.—MISSISSIPPI—MONEY VALUE OF FOOD AND FAMILIES HAVING FOOD, BY SOURCE: Average money value of and expense for food consumed at home and away, average money value of food received without direct expense per household, and percent of families having food from specified sources in a week, by income and method of collection.

[Households of Negro sharecropper families that include a husband and wife and one or more children aged 2-18 years, Delta Cotton Area, February-April 1948]

Net income class 1947 and method of collection	Households	Money value of all food		Expense for food						Money value[3] of food received without direct expense				
		At home and away in a week	At home[1]	Total[1]	At home	Away from home[2]				Total	Produced at home		As gift or pay	
						All		Meals			Amount[1]	Families having	Amount	Families having
						Amount	Families having	Amount	Families having					
	Number	Dollars	Dollars	Dollars	Dollars	Dollars	Percent	Dollars	Percent	Dollars	Dollars	Percent	Dollars	Percent
All classes:														
List	97	14.79	14.69	10.18	10.08	0.10	9	0.08	6	4.61	4.20	91	0.41	44
Record	93	14.10	13.82	9.31	9.03	.28	36	.12	10	4.79	4.01	85	.78	66
Under $500:														
List	17	10.29	10.29	8.41	8.41	.00	0	.00	0	1.88	1.57	76	.31	41
Record	22	12.62	12.36	9.15	8.89	.26	20	.07	9	3.47	2.94	73	.53	55
$500-$999:														
List	44	14.20	14.13	9.78	9.71	.07	11	.05	7	4.42	3.94	91	.48	50
Record	40	12.71	12.58	8.69	8.56	.13	28	.04	2	4.02	3.11	82	.91	75
$1,000-$1,499:														
List	21	14.95	14.61	10.18	9.84	.34	19	.28	14	4.77	4.34	95	.43	38
Record	22	16.89	16.45	10.05	9.61	.44	50	.28	23	6.84	6.36	95	.48	64
$1,500 and over:														
List	15	21.37	21.37	13.33	13.33	.00	0	.00	0	8.04	7.71	100	.33	40
Record	9	17.11	16.50	10.69	10.08	.61	44	.33	11	6.42	4.85	100	1.57	56

[1] See table 10 for standard error.
[2] By family members only.
[3] See Methodology, p. 66, for method of valuing food received without direct expense.

Table 10.—MISSISSIPPI—MONEY VALUE OF FOOD AT HOME AND TOTAL EXPENSE FOR FOOD: Average money value of all food and of home-produced food consumed at home and average expense for food at home and away in a week, per household, with standard errors, by income and method of collection.

[Households of Negro sharecropper families that include a husband and wife and one or more children aged 2-18 years, Delta Cotton Area, February-April 1948]

Net income class 1947 and method of collection	Number of households	Money value of all food consumed at home		Expense for food consumed at home and away[2]		Money value of home-produced food consumed at home[3]	
		Average per household[1]	Standard error	Average per household[1]	Standard error	Average per household[1]	Standard error
All classes:							
List	97	$14.69	$0.73	$10.18	$0.62	$4.20	$0.40
Record	93	13.82	.50	9.31	.44	4.01	.49
Under $500:							
List	17	10.29	.83	8.41	.91	1.57	.32
Record	22	12.36	.90	9.15	.81	2.94	.85
$500-$999:							
List	44	14.13	1.01	9.78	.89	3.94	.52
Record	40	12.58	.72	8.69	.52	3.11	.69
$1,000-$1,499:							
List	21	14.61	1.36	10.18	1.27	4.34	.73
Record	22	16.45	.98	10.05	1.06	6.36	1.11
$1,500 and over:							
List	15	21.37	2.18	13.33	2.20	7.71	1.36
Record	9	16.50	1.55	10.69	2.24	4.85	1.77

[1] Significance of the difference between averages per household for the two methods was tested at each income class by use of t-test. No significant differences were found. See p. __ for description of test.

[2] Expense for food away by family members only.

[3] See Methodology, p. 66, for method of valuing food not purchased.

Table 11.—MISSISSIPPI—EXPENSE FOR FOOD AT HOME AND DISTRIBUTION BY FOOD GROUPS: Average expense for food consumed at home in a week per household and percent of total spent for each food group, by income and method of collection.

[Households of Negro sharecropper families that include a husband and wife and one or more children aged 2-18 years, Delta Cotton Area, February-April 1948. See Methodology for classification of foods by food groups]

Net income class 1947 and method of collection	Expenditures for food consumed at home in a week		Milk, cream, ice cream, cheese	Fats, oils	Meat, poultry, fish	Eggs	Dry beans and peas, nuts	Potatoes, sweet-potatoes	Tomatoes, citrus fruit	Leafy, green, yellow vegetables	Other vegetables and fruit	Sugars, sweets	Grain products	Accessories
	Dollars	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
All classes:														
List	10.08	100.0	6.0	17.1	20.4	0.7	4.7	2.9	4.1	2.6	3.1	9.9	26.0	2.5
Record	9.03	100.0	4.2	17.9	20.0	.6	4.5	3.1	2.3	1.7	2.8	10.9	28.2	3.8
Under $500:														
List	8.41	100.0	5.1	21.9	21.4	.7	2.6	1.9	2.5	2.4	2.1	7.8	28.7	2.9
Record	8.89	100.0	3.9	17.6	23.7	.7	5.7	2.8	1.8	1.6	2.1	11.0	23.7	5.4
$500-$999:														
List	9.71	100.0	5.8	17.4	20.8	.4	4.6	3.2	4.5	2.0	2.5	10.6	25.7	2.5
Record	8.56	100.0	4.3	19.5	18.6	.8	4.1	3.6	2.4	1.0	3.4	10.3	28.0	4.0
$1,000-$1,499:														
List	9.84	100.0	7.5	14.8	21.3	1.6	5.5	3.8	4.3	2.7	3.3	7.9	24.9	2.4
Record	9.61	100.0	5.2	16.3	17.7	.2	5.4	2.4	2.7	2.2	2.9	11.3	31.3	2.4
$1,500 and over:														
List	13.33	100.0	5.4	15.1	18.3	.4	5.6	2.1	4.2	4.0	5.0	12.0	25.7	2.2
Record	10.08	100.0	2.1	16.7	22.7	.6	1.3	3.7	2.4	2.9	.9	11.3	31.8	3.1

Table 12.—MISSISSIPPI—NUTRITIVE CONTENT OF FOOD: Nutritive content of food consumed at home, in terms of calories and eight essential nutrients, per nutrition unit per day, by income and method of collection.

[Households of Negro sharecropper families that include a husband and wife and one or more children aged 2-18 years, Delta Cotton Area, February-April 1948. See Methodology for explanation of nutrition unit]

Net income class 1947 and method of collection	Households	Food energy	Protein	Calcium[1]	Iron	Vitamin A value[1]	Thiamine[2]	Riboflavin[2]	Niacin[2]	Ascorbic acid[1 2]
	Number	Calories	Grams	Grams	Milligrams	International Units	Milligrams	Milligrams	Milligrams	Milligrams
All classes:										
List	97	3,340	71	0.76	16	4,920	2.4	1.9	19	63
Record	93	3,310	70	.77	18	5,670	2.5	1.9	21	59
Under $500:										
List	17	3,130	64	.65	16	4,180	2.3	1.6	19	51
Record	22	3,040	66	.72	17	4,780	2.3	1.7	18	51
$500-$999:										
List	44	3,420	78	.77	16	4,310	2.4	1.9	19	62
Record	40	3,540	74	.82	20	5,840	2.7	2.0	22	66
$1,000-$1,499:										
List	21	3,540	78	.80	17	7,090	2.5	2.0	22	72
Record	22	3,240	71	.75	17	5,690	2.5	2.0	21	56
Over $1,500:										
List	15	3,090	67	.87	16	4,490	2.2	1.9	17	64
Record	9	3,070	60	.58	14	7,030	2.2	1.7	20	54

[1] Significance of the difference between averages for the two methods was tested at each income class. No significant differences were found. See p. 15 for description of the test.

[2] Without adjustment for nutrient loss in preparation and cooking of food.

Table 13.—MISSISSIPPI—DISTRIBUTIONS OF HOUSEHOLDS BY NUTRITIVE CONTENT OF FOOD: Percent of households having specified quantities of energy and eight essential nutrients in food consumed at home, per nutrition unit per day by method of collection.

[Households of Negro sharecropper families that include a husband and wife and one or more children aged 2-18 years, Delta Cotton Area, February-April 1948. See Methodology for explanation of nutrition unit]

Method of collection	Households	Food energy in food consumed at home per nutrition unit						Protein in food consumed at home per nutrition unit					Calcium in food consumed at home per nutrition unit					
		Median quantity	Households having specified quantities, in calories					Median quantity	Households having specified quantities, in grams				Median quantity	Households having specified quantities, in grams				
			Under 2,000	2,000-2,999	3,000-3,999	4,000-4,999	5,000 and over		Under 45	45-69	70-99	100 and over		Under 0.5	0.5-0.6	0.7-0.9	1.0-1.3	1.4 and over
	No.	Cal.	Pct.	Pct.	Pct.	Pct.	Pct.	Gm.	Pct.	Pct.	Pct.	Pct.	Gm.	Pct.	Pct.	Pct.	Pct.	Pct.
List	97	3,281	2	35	42	18	3	68	11	41	34	14	0.7	24	25	26	16	9
Record	93	3,272	4	38	37	15	6	67	15	38	35	12	.7	16	33	25	16	10

Method of collection	Households	Iron in food consumed at home per nutrition unit						Vitamin A value in food consumed at home per nutrition unit						Thiamine[1] in food consumed at home per nutrition unit						
		Median quantity	Households having specified quantities, in milligrams					Median quantity	Households having specified quantities, in International Units					Median quantity	Households having specified quantities, in milligrams					
			Under 12	12-15	16-19	20-23	24 and over		Under 2,000	2,000-2,999	3,000-4,999	5,000-9,999	10,000 and over		Under 1.5	1.5-1.7	1.8-2.0	2.1-2.6	2.7-2.9	3.0 and over
	No.	Mg.	Pct.	Pct.	Pct.	Pct.	Pct.	I. U.	Pct.	Pct.	Pct.	Pct.	Pct.	Mg.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
List	97	16	22	27	29	13	9	3,429	33	14	20	22	11	2.3	6	12	19	32	13	18
Record	93	17	14	23	30	16	17	4,038	25	17	11	31	16	2.3	2	14	25	17	12	30

Method of collection	Households	Riboflavin[1] in food consumed at home per nutrition unit					Niacin[1] in food consumed at home per nutrition unit					Ascorbic acid[1] in food consumed at home per nutrition unit					
		Median quantity	Households having specified quantities, in milligrams				Median quantity	Households having specified quantities, in milligrams				Median quantity	Households having specified quantities, in milligrams				
			Under 1.2	1.2-1.7	1.8-2.3	2.4 and over		Under 15	15-20	21-26	27 and over		Under 25	25-49	50-74	75-124	125 and over
	No.	Mg.	Pct.	Pct.	Pct.	Pct.	Mg.	Pct.	Pct.	Pct.	Pct.	Mg.	Pct.	Pct.	Pct.	Pct.	Pct.
List	97	1.8	21	27	27	25	19	22	40	26	12	54	16	28	22	28	6
Record	93	1.7	22	28	25	25	20	20	32	32	16	48	18	33	23	16	10

[1] Without adjustment for nutrient losses in preparation and cooking of food.

Table 14.—SOUTH CAROLINA—RACE AND TENURE: Percent of families in each race-tenure group, by method of collection.

[Households of farm owner and cash renter families that include a husband and wife and one or more children aged 2-18 years, Flue-Cured Tobacco Area, February-April 1948]

Method of collection	All families		White families				Negro families			
			Owners		Cash renters		Owners		Cash renters	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
List	80	100	46	58	5	6	16	20	13	16
Record	68	100	43	63	2	3	14	21	9	13

Table 15.—SOUTH CAROLINA—INCOME: Distribution of families by net income in 1947, average per family, with standard errors, by income and method of collection.

[Households of farm owner and cash renter families that include a husband and wife and one or more children aged 2-18 years, Flue-Cured Tobacco Area, February-April 1948]

Net income class 1947 and method of collection	Families in each income class		Net income, 1947	
	Number	Percent	Average per family[1]	Standard error
All classes:				
List	78[2,3]	100	$1,646**	$119
Record	66[3]	100	2,307	195
Under $500:				
List	9	11	235	56
Record	5	7	363	46
$500-$999:				
List	7	9	643	58
Record	7[4]	12	666	79
$1,000-$1,499				
List	24	30	1,266	29
Record	14[4]	22	1,255	42
$1,500-$1,999:				
List	12[4]	16	1,814	33
Record	7	10	1,701	67
$2,000-$2,999:				
List	18[4]	24	2,307*	56
Record	16	24	2,501	74
$3,000 and over:				
List	7	9	4,037	309
Record	17	25	4,489	294

* Difference from record average significant at the 5 percent probability level.
** Difference from record average significant at the 1 percent probability level.

[1] Significance of the difference between average income values for the two methods was tested at each income class. Significant differences were found only where indicated by asterisks. See p. 15 for description of test.

[2] Includes one family with negative income not shown separately.

[3] Excludes two families with income not reported..

[4] Excludes one family with income not reported, but which was believed to belong in this income class.

Table 16.—SOUTH CAROLINA—HOUSEHOLD SIZE DURING WEEK: Average number of persons per household, with standard errors, by income and method of collection.

[Households of farm owner and cash renter families that include a husband and wife and one or more children aged 2-18 years, Flue-Cured Tobacco Area, February-April 1948]

Net income class 1947 and method of collection	Number of households	Household size during week in equivalent persons[1]	
		Average per household[2]	Standard error
All classes:			
List	80[3]	5.93	0.24
Record	68	6.39	.31
Under $500:			
List	9	6.62*	.68
Record	5	4.50	.43
$500-$999:			
List	7	4.96**	.73
Record	8	8.10	.71
$1,000-$1,499:			
List	24	5.74	.46
Record	15	6.36	.75
$1,500-$1,999:			
List	13	5.71	.51
Record	7	6.27	.65
$2,000-$2,999:			
List	19	6.10	.51
Record	16	6.42	.49
$3,000 and over:			
List	7	6.60	.98
Record	17	6.20	.76

* Difference from record average significant at the 5 percent probability level.

** Difference from record average significant at the 1 percent probability level.

[1] Equivalent persons per household is derived by dividing the number of meals served from family food supplies by 21.

[2] Significance of the difference between average household size for the two methods was tested at each income class. Significant differences were found only where indicated by asterisks. See p. 15 for description of test.

[3] Includes one family with negative income not shown separately.

Table 17.—SOUTH CAROLINA—FAMILY CHARACTERISTICS IN 1947: Distribution by family and household size, expenditures for food used at home, and money value of home-produced food, by method of collection.

[Households of farm owner and cash renter families that include a husband and wife and one or more children aged 2-18 years, Flue-Cured Tobacco Area, February-April 1948]

Selected family characteristics in 1947	Families, by method of collection			
	Number[1]		Percent	
	List	Record	List	Record
Family size (in year-equivalent persons):[2]				
1.50-3.49	6	6	8	9
3.50-5.49	39	25	49	36
5.50-7.49	18	14	22	21
7.50 or more	17	23	21	34
Household size (in year-equivalent persons):[2]				
1.50-3.49	6	5	8	7
3.50-5.49	38	26	47	39
5.50-7.49	19	15	24	22
7.50 or more	17	22	21	32
Expenditures for purchased food used at home (in dollars):				
Under 200	13	6	16	9
200-399	33	24	42	35
400-599	26	22	32	32
600 or more	8	16	10	24
Value of home-produced food (in dollars):[3]				
Under 100	2	1	2	1
100-399	16	11	20	16
400-699	30	23	38	34
700-999	20	23	25	34
1 000 or more	12	10	15	15

[1] Significance of the difference between distributions for the two methods was tested. No significant differences were found except for expenditures for purchased food used at home.

[2] A year-equivalent person is equal to one person in the family or household for 52 weeks. All persons (members of family and others) who had meals 1 month or more with the family during 1947 were included as members of the household.

[3] See Methodology, p. 66, for method of valuing food not purchased.

Table 18.—SOUTH CAROLINA—DATES OF COLLECTION: Distribution of schedules collected in bi-weekly periods, by method of collection.

[Households of farm owner and cash renter families that include a husband and wife and one or more children aged 2-18 years, Flue-Cured Tobacco Area, February-April 1948]

Method of collection	All schedules	Date of schedule				
		February 16-29	March 1-15	March 16-31	April 1-15	April 16-30
		Number of schedules				
List	80	9	24	23	23	1
Record	68	14	20	17	15	2
		Percent of total				
List	100	11	30	29	29	1
Record	100	20	30	25	22	3

Table 19.—SOUTH CAROLINA—QUANTITIES OF FOOD GROUPS PER HOUSEHOLD Average quantities of food groups consumed at home in a week per household, with standard errors, by income and method of collection.

[Households of farm owner and cash renter families that include a husband and wife and one or more children aged 2-18 years, Flue-Cured Tobacco Area, February-April 1948. See Methodology for classification of foods by food groups]

Net income class 1947 and method of collection	Number of households	Milk equivalent	Fats, oils	Meat, poultry, fish	Eggs	Dry beans and peas, nuts	Potatoes, sweetpotatoes	Tomatoes, citrus fruit	Leafy, green, yellow vegetables	Other vegetables and fruit	Sugars, sweets	Grain products (flour equivalent)
All classes:		Quantity per household[1] (in pounds)										
List	80[2]	35.21	7.07	13.92	4.51	1.85	10.21	6.39	6.20	7.94	7.67	29.28
Record	68	42.87	7.21	16.91	5.04	1.77	7.19	4.69	5.63	6.99	7.80	31.85
		Standard error (in pounds)										
List	80[2]	3.65	0.38	1.02	0.35	0.24	2.02	0.68	0.63	0.74	0.41	1.70
Record	68	4.58	.49	1.22	.48	.24	1.01	.69	.48	.74	.58	2.15
Under $500:		Quantity per household[1] (in pounds)										
List	9	17.93	6.24	7.74	3.09	3.60	9.78	5.10	4.12	3.26	6.95	38.59
Record	5	25.82	7.36	12.27	3.56	1.47	5.86	1.98	4.01	7.42	5.38	26.32
		Standard error (in pounds)										
List	9	7.74	1.32	2.39	1.11	1.56	5.92	2.17	1.29	1.79	1.52	5.59
Record	5	16.40	1.71	3.40	.86	.52	2.28	1.36	1.00	2.16	.58	3.94
$500-$999:		Quantity per household[1] (in pounds)										
List	7	22.62	5.97	9.82	3.74	1.21	3.29	3.23	3.29	4.34	5.26*	22.13**
Record	8	43.67	6.78	16.04	6.04	2.48	5.88	4.10	4.28	6.35	8.43	39.55
		Standard error (in pounds)										
List	7	11.28	1.11	2.78	0.76	0.36	1.30	1.11	1.09	1.33	0.73	3.79
Record	8	19.52	1.23	4.97	3.00	.88	2.39	1.32	1.03	2.44	.83	3.61
$1,000-$1,499:		Quantity per household[1] (in pounds)										
List	24	26.38	6.35	13.39	3.30	1.90	5.23	4.74	4.52	5.10	6.74	27.99
Record	15	31.87	8.21	14.59	4.24	1.80	10.56	2.97	5.78	3.60	7.75	31.95

		Standard error (in pounds)										
List	24	4.28	0.63	1.99	0.44	0.33	1.19	0.71	0.65	0.88	0.59	3.44
Record	15	5.36	1.28	2.47	.66	.45	3.66	1.04	1.35	.87	1.50	4.62
$1,500-$1,999:		Quantity per household[1] (in pounds)										
List	13	61.98	7.18	16.56	5.72	1.54	12.54	8.76	9.33	13.22	8.53	29.62
Record	7	46.96	7.95	19.06	4.51	1.74	4.11	7.83	5.22	6.48	7.59	33.12
		Standard error (in pounds)										
List	13	10.98	0.93	2.52	0.97	0.36	4.64	2.63	1.73	2.99	0.97	3.61
Record	7	19.06	1.18	5.43	1.40	.42	1.95	2.33	1.91	1.54	1.74	8.70
$2,000-$2,999:		Quantity per household[1] (in pounds)										
List	19	36.48	7.11	14.93	5.92	1.25	12.99	8.79**	6.16	11.05	8.62	25.69
Record	16	51.83	7.24	17.84	6.25	1.36	6.01	3.71	5.95	7.55	7.08	30.81
		Standard error (in pounds)										
List	19	8.82	0.68	1.72	0.70	0.35	4.54	1.43	1.11	1.82	0.83	2.90
Record	16	8.89	1.22	1.83	.67	.41	1.11	.78	.94	.96	.81	3.12
$3,000 and over:		Quantity per household[1] (in pounds)										
List	7	47.02	10.70**	18.54	5.32	2.02	21.68	5.33	10.97	7.29	9.58	34.00
Record	17	47.11	6.16	18.99	4.80	1.88	7.59	6.94	6.49	9.83	9.03	30.23
		Standard error (in pounds)										
List	7	8.47	1.54	4.27	1.72	0.90	15.33	1.62	4.17	1.63	2.04	8.85
Record	17	9.29	.77	2.36	.84	.66	1.56	2.10	.77	2.16	1.54	5.88

* Difference from record average significant at the 5 percent probability level.
** Difference from record average significant at the 1 percent probability level.
[1] Significance of the difference between average quantity per household for the two methods was tested at each income class. Significant differences were found only where indicated by asterisks. See p. 15 for description of test.
[2] Includes one family with negative income not shown separately.

Table 20.—SOUTH CAROLINA—QUANTITIES OF FOOD GROUPS PER PERSON: Percent of households consuming specified quantities of food groups at home in a week, per person, by method of collection.

[Households of farm owner and cash renter families that include a husband and wife and one or more children aged 2-18 years, Flue-Cured Tobacco Area, February-April 1948. See Methodology for classification of foods by food groups]

Consumption of food groups at home in a week per person[1]	List	Record
	Percent	Percent
Milk, cream, ice cream, cheese, in quarts of whole fluid milk equivalent:		
None	9	4
0.1-0.9	16	21
1.0-1.9	18	10
2.0-2.9	18	21
3.0-3.9	10	13
4.0-4.9	11	9
5.0-5.9	8	7
6.0-6.9	6	3
7.0 or more	4	12
Fats and oils, in pounds:		
None	0	0
0.1-0.4	9	7
0.5-0.9	23	34
1.0-1.4	35	39
1.5-1.9	20	13
2.0-2.4	12	4
2.5 or more	1	3
Meat, poultry, fish, in pounds:		
None	2	1
0.1-0.9	10	7
1.0-1.9	25	21
2.0-2.9	29	22
3.0-3.9	21	27
4.0-4.9	8	13
5.0 or more	5	9
Eggs (number):		
None	2	0
0.1-0.9	1	4
1.0-1.9	9	7
2.0-2.9	14	4
3.0-3.9	4	19
4.0-4.9	6	4
5.0-5.9	9	10
6.0-6.9	10	12
7.0-8.9	15	10
9.0-11.9	15	17
12.0 or more	15	13
Dry beans and peas, nuts, in pounds:		
None	21	24
0.01-0.24	31	31
0.25-0.49	22	32
0.50-0.74	18	7
0.75-0.99	4	3
1.00 or more	4	3

See footnote at end of table.

Table 20.—SOUTH CAROLINA—QUANTITIES OF FOOD GROUPS PER PERSON: Percent of households consuming specified quantities of food groups at home in a week, per person, by method of collection. (Continued)

[Households of farm owner and cash renter families that include a husband and wife and one or more children aged 2-18 years, Flue-Cured Tobacco Area, February-April 1948. See Methodology for classification of foods by food groups]

Consumption of food groups at home in a week per person[1]	List	Record
	Percent	Percent
Potatoes, sweetpotatoes, in pounds:		
None	20	21
0.1-0.9	30	29
1.0-1.9	24	26
2.0-2.9	16	12
3.0-3.9	5	9
4.0 or more	5	3
Tomatoes, citrus fruit, in pounds:		
None	18	17
0.1-0.4	12	25
0.5-0.9	21	27
1.0-1.4	15	13
1.5-1.9	15	12
2.0-2.4	9	4
2.5-2.9	4	1
3.0 or more	6	1
Leafy, green, yellow vegetables, in pounds:		
None	9	6
0.1-0.4	18	15
0.5-0.9	24	35
1.0-1.4	18	24
1.5-1.9	14	15
2.0-2.4	6	3
2.5-2.9	5	1
3.0 or more	6	1
Other vegetables, fruit, in pounds:		
None	12	10
0.1-0.9	32	36
1.0-1.9	29	31
2.0-2.9	15	18
3.0-3.9	8	4
4.0 or more	4	1
Sugars, sweets, in pounds:		
None	1	0
0.1-0.4	2	6
0.5-0.9	16	28
1.0-1.4	37	35
1.5-1.9	28	21
2.0-2.4	15	4
2.5 or more	1	6
Grain products (flour equivalent), in pounds:		
0-1.9	0	0
2.0-2.9	8	9
3.0-3.9	26	21
4.0-4.9	26	31
5.0-5.9	19	19
6.0-6.9	9	10
7.0 or more	12	10

[1] Equivalent person per household. Derived by dividing the number of meals served from family food supplies by 21.

Table 21.—SOUTH CAROLINA—QUANTITIES OF SELECTED FOODS: Average quantities of selected foods consumed at home in a week per household, with standard errors, by income and method of collection.

[Households of farm owner and cash renter families that include a husband and wife and one or more children aged 2-18 years, Flue-Cured Tobacco Area, February-April 1948]

Net income class 1947 and method of collection	Number of households	Lard and other shortening	Salt pork	All other pork	Fish, fresh, frozen	Dry beans	Dry peas	Citrus fruit, fresh	Peaches, canned	Flour, enriched self-rising	Corn meal	Grits	Rice
All classes:		Quantity consumed per household[1] (in pounds)											
List	80[2]	3.20	1.18*	5.65*	2.76	0.77	0.63	2.78*	1.50	10.32	7.43	4.16	5.07*
Record	68	3.95	.61	7.88	2.79	.96	.49	1.56	1.53	11.65	6.50	3.68	7.36
		Standard error (in pounds)											
List	80[2]	0.21	0.21	0.67	0.40	0.14	0.21	0.42	0.27	0.85	0.84	0.48	0.52
Record	68	.35	.18	.86	.46	.19	.14	.30	.28	1.18	.89	.50	.81
Under $500:		Quantity consumed per household[1] (in pounds)											
List	9	2.77	0.44	2.56	1.06	0.58	2.91	1.67	0.92	10.56	17.52	3.73	5.86
Record	5	3.59	.70	6.18	2.30	.36	.92	1.25	2.28	8.77	6.18	3.00	6.69
		Standard error (in pounds)											
List	9	0.50	0.45	1.71	0.60	0.29	1.62	0.83	0.92	2.52	5.03	1.39	2.57
Record	5	.86	.70	2.52	.86	.25	.48	1.25	.82	2.70	3.03	1.58	2.95
$500-$999:		Quantity consumed per household[1] (in pounds)											
List	7	2.55	2.14	2.71*	1.71	0.64	0.07	1.97	0.88	8.51	3.42	3.03	5.43
Record	8	3.92	1.12	6.58	1.60	1.70	.72	1.41	3.64	9.86	13.56	3.06	10.21
		Standard error (in pounds)											
List	7	0.45	1.10	0.89	1.41	0.28	0.07	1.02	0.61	3.05	1.75	1.31	1.03
Record	8	1.41	.76	1.24	1.60	.59	.47	.72	1.48	1.88	5.15	1.08	2.31
$1,000-$1,499:		Quantity consumed per household[1] (in pounds)											
List	24	2.89	1.02	4.97	3.34	1.13	0.50	2.54	0.43	9.76	6.82	3.82	5.84
Record	15	4.37	1.48	7.17	2.15	1.16	.58	1.63	.56	12.87	6.12	3.16	8.63

See footnotes at end of table.

		Standard error (in pounds)											
List	24	0.27	0.38	0.97	0.84	0.30	0.17	0.56	0.21	1.51	1.03	1.07	0.88
Record	15	1.01	.58	1.67	.69	.41	.24	.65	.33	2.36	1.65	.88	1.80
$1,500-$1,999:		Quantity consumed per household[1] (in pounds)											
List	13	3.54	1.46	7.73	2.77	0.48	0.30	3.88	2.68	12.39	6.30	5.11*	3.56
Record	7	4.38	0	9.11	5.56	.78	.28	2.48	.55	15.91	5.95	2.40	6.13
		Standard error (in pounds)											
List	13	0.51	0.54	1.72	0.86	0.21	0.17	1.77	1.03	2.26	1.12	0.66	0.53
Record	7	.72	---	4.94	1.35	.32	.21	.91	.36	7.43	2.00	.86	2.25
$2,000-$2,999:		Quantity consumed per household[1] (in pounds)											
List	19	3.00	1.08	6.18	3.18	0.60	0.14	3.17	1.95	9.80	4.82	4.00	4.31
Record	16	4.14	.41	8.67	2.68	.66	.21	1.00	1.76	11.08	6.09	4.07	6.87
		Standard error (in pounds)											
List	19	0.29	0.39	1.08	0.70	0.25	0.07	0.92	0.48	1.55	0.93	0.81	0.74
Record	16	.73	.29	1.64	1.15	.24	.14	.53	.37	1.64	.87	.89	1.40
$3,000 and over:		Quantity consumed per household[1] (in pounds)											
List	7	5.27	1.11**	9.32	2.36	1.00	0.50	2.16	2.71	11.50	9.05	5.72	6.26
Record	17	3.34	.02	8.37	3.02	.98	.53	1.82	1.35	11.06	4.20	4.80	6.07
		Standard error (in pounds)											
List	7	1.67	0.46	4.61	1.12	0.85	0.33	1.02	1.07	3.27	2.18	1.69	3.20
Record	17	.47	.02	1.78	.94	.55	.41	.72	.60	2.42	1.40	1.48	1.82

* Difference from record average significant at the 5 percent probability level.
** Difference from record average significant at the 1 percent probability level.
[1] Significance of the difference between average quantity per household for the two methods was tested at each income class. Significant differences were found only where indicated by asterisks. See p. 15 for description of test.
[2] Includes one family with negative income not shown separately.

Table 22.—SOUTH CAROLINA—QUANTITIES OF FOOD GROUPS BY SOURCE: Average quantities of food groups consumed at home in a week that were purchased, home-produced or received as gift or pay, per household, by method of collection.

[Households of farm owner and cash renter families that include a husband and wife and one or more children aged 2-18 years, Flue-Cured Tobacco Area, February-April 1948. See Methodology for classification of foods by food groups]

Method of collection	House-holds	Milk equivalent	Fats, oils	Meat, poultry, fish	Eggs	Dry beans and peas, nuts	Potatoes, sweet-potatoes	Tomatoes, citrus fruit	Leafy, green, yellow vegetables	Other vegetables and fruit	Sugars, sweets	Grain products (flour equivalent)
	Number	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
		Average quantity purchased										
List	80	7.62	2.31	5.09	0.22	1.30	3.52	4.30	2.04	4.91	5.78	17.50
Record	68	6.51	1.94	5.46	.31	1.33	3.61	3.52	3.21	4.72	6.24	22.76
		Average quantity produced at home										
List	80	27.36	4.72	8.25	4.29	0.53	5.20	2.05	3.75	2.85	1.79	11.79
Record	68	35.84	5.24	10.24	4.69	.35	2.20	1.15	2.36	2.07	1.46	8.92
		Average quantity received as gift or pay										
List	80	0.23	0.04	0.58	0	0.02	1.49	0.03	0.42	0.17	0.10	0
Record	68	.52	.03	1.21	.05	.09	1.38	.02	.06	.20	.10	.17

Note: The sum of the quantities shown in this table by source may differ from the total shown in table 19 because of rounding.

Table 23.—SOUTH CAROLINA—MONEY VALUE OF FOOD AND FAMILIES HAVING FOOD, BY SOURCE: Average money value of and expense for food consumed at home and away, average money value of food received without direct expense per household, and percent of families having food from specified sources, in a week, by income and method of collection.

[Households of farm owner and cash renter families that include a husband and wife and one or more children aged 2-18 years, Flue-Cured Tobacco Area, February-April 1948]

Net income class 1947 and method of collection	Households	Money value of all food		Expense for food						Money value[3] of food received without direct expense				
						Away from home[2]					Produced at home		As gift or pay	
						All		Meals		Total				
		At home and away	At home[1]	Total[1]	At home	Amount	Families having	Amount	Families having		Amount[1]	Families having	Amount	Families having
	Number	Dollars	Dollars	Dollars	Dollars	Dollars	Percent	Dollars	Percent	Dollars	Dollars	Percent	Dollars	Percent
All classes:														
List	80[4]	20.48	19.62	10.28	9.42	0.86	52	0.58	31	10.20	9.62	100	0.58	41
Record	68	23.21	21.52	11.79	10.10	1.69	66	1.05	40	11.42	10.77	99	.65	60
Under $500:														
List	9	15.52	15.01	8.09	7.58	.51	44	.36	22	7.43	7.24	100	.19	33
Record	5	17.68	16.84	9.03	8.19	.84	40	.34	20	8.65	7.61	100	1.04	60
$500-$999:														
List	7	14.52	14.27	8.97	8.72	.25	14	.11	14	5.55	5.45	100	.10	57
Record	8	23.54	21.09	12.86	10.41	2.45	38	.28	12	10.68	10.37	100	.31	88
$1,000-$1,499:														
List	24	16.90	16.07	9.44	8.61	.83	33	.55	21	7.46	7.20	100	.26	43
Record	15	19.83	19.33	11.07	10.57	.50	67	.34	33	8.76	8.52	93	.24	40
$1,500-$1,999:														
List	13	25.58	24.61	10.05	9.08	.97	62	.60	38	15.53	15.03	100	.50	38
Record	7	23.34	22.56	9.27	8.49	.78	57	.50	43	14.07	12.65	100	1.42	86
$2,000-$2,999:														
List	19	23.13	21.85	12.83	11.55	1.28	84	.98	53	10.30	9.58	100	.72	42
Record	16	25.05	22.46	12.52	9.93	2.59	75	2.13	56	12.53	12.13	100	.40	44
$3,000 and over:														
List	7	26.43	25.62	9.45	8.64	.81	71	.44	29	16.98	16.59	100	.39	43
Record	17	25.87	23.72	13.09	10.94	2.15	82	1.45	47	12.78	11.83	100	.95	71

[1] See table 24 for standard error.
[2] By family members only.
[3] See Methodology for method of valuing food received without direct expense.
[4] Includes one family with negative income not shown separately.

Table 24.—SOUTH CAROLINA—MONEY VALUE OF FOOD AT HOME AND TOTAL EXPENSE FOR FOOD: Average money value of all food and of home-produced food consumed at home and average expense for food at home and away in a week, per household, with standard errors, by income and method of collection.

[Households of farm owner and cash renter families that include a husband and wife and one or more children aged 2-18 years, Flue-Cured Tobacco Area, February-April 1948]

Net income class 1947 and method of collection	Number of households	Money value of all food consumed at home		Expense for food at home and away[2]		Money value[3] of home-produced food consumed at home	
		Average per household[1]	Standard error	Average per household[1]	Standard error	Average per household[1]	Standard error
All classes:							
List	80[4]	$19.62	$0.97	$10.28	$0.63	$9.62	$0.81
Record	68	21.52	1.05	11.79	.83	10.77	.77
Under $500:							
List	9	15.01	2.91	8.09	2.08	7.24	2.00
Record	5	16.84	2.88	9.03	1.20	7.61	2.65
$500-$999:							
List	7	14.27	2.27	8.97	1.35	5.45	2.00
Record	8	21.09	4.16	12.86	4.44	10.37	2.80
$1,000-$1,499:							
List	24	16.07	.97	9.44	.75	7.20	.78
Record	15	19.33	1.71	11.07	1.06	8.52	1.57
$1,500-$1,999:							
List	13	24.61	2.77	10.05	1.29	15.03	2.50
Record	7	22.56	3.91	9.27	.97	12.65	3.48
$2,000-$2,999:							
List	19	21.85	1.78	12.83	1.82	9.58	1.16
Record	16	22.46	1.96	12.52	1.79	12.13	1.21
$3,000 and over:							
List	7	25.62	4.07	9.45	1.65	16.59	3.62
Record	17	23.72	2.28	13.09	1.76	11.83	1.42

[1] Significance of the difference between averages per household for the two methods was tested at each income level by use of t-test. No significant differences were found. See p. 15 for description of test.

[2] Expense for food away by family members only.

[3] See Methodology, p. 66 for method of valuing food not purchased.

[4] Includes one family with negative income not shown separately.

Table 25.—SOUTH CAROLINA—EXPENSE FOR FOOD AT HOME AND DISTRIBUTION BY FOOD GROUPS: Average expense for food consumed at home in a week per household and percent of total spent for each food group, by income and method of collection.

[Households of farm owner and cash renter families that include a husband and wife and one or more children aged 2-18 years, Flue-Cured Tobacco Area, February-April 1948. See Methodology for classification of foods by food groups]

Net income class 1947 and method of collection	Expenditures for food consumed at home in a week		Milk, cream, ice cream, cheese	Fats, oils	Meat, poultry, fish	Eggs	Dry beans and peas, nuts	Potatoes, sweet-potatoes	Tomatoes, citrus fruit	Leafy, green, yellow vege-tables	Other vege-tables and fruit	Sugars, sweets	Grain products	Acces-sories
	Dollars	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
All classes:[1]														
List	9.42	100.0	8.5	10.1	20.4	0.6	3.7	2.3	4.5	2.0	6.7	11.8	25.4	4.0
Record	10.10	100.0	6.1	7.1	22.3	.8	3.3	2.3	3.5	3.8	5.9	8.4	31.6	4.9
Under $500:														
List	7.58	100.0	5.3	17.9	12.8	0	2.2	1.1	7.0	1.5	7.5	12.5	29.6	2.6
Record	8.19	100.0	14.7	11.7	15.0	0	2.1	2.0	1.8	1.3	4.0	6.5	35.6	5.3
$500-$999:														
List	8.72	100.0	7.3	21.6	17.8	0	2.9	2.2	2.4	2.4	4.0	9.6	27.3	2.5
Record	10.41	100.0	1.6	3.7	25.1	6.0	3.5	2.2	3.7	2.8	4.9	6.5	35.4	4.6
$1,000-$1,499:														
List	8.61	100.0	7.1	12.3	23.7	0	4.9	2.8	3.0	1.6	3.9	11.1	25.9	3.7
Record	10.57	100.0	6.9	12.9	23.7	.3	2.6	1.1	1.7	4.0	3.0	8.2	29.6	6.0
$1,500-$1,999:														
List	9.08	100.0	12.3	4.6	17.1	0	4.1	3.0	5.7	1.7	8.7	12.5	24.8	5.5
Record	8.49	100.0	3.7	5.5	16.0	0	4.0	1.4	6.7	2.1	4.4	9.4	40.4	6.4
$2,000-$2,999:														
List	11.55	100.0	10.2	7.5	20.9	2.3	2.6	2.2	4.7	2.2	8.9	12.7	22.7	3.1
Record	9.93	100.0	6.2	5.4	23.4	0	3.5	3.1	3.2	5.6	8.2	8.7	29.8	2.9
$3,000 and over:														
List	8.64	100.0	4.3	3.9	23.3	0	4.5	1.6	3.7	4.1	5.7	12.7	28.8	7.4
Record	10.94	100.0	6.3	4.6	22.9	0	3.6	2.8	4.5	3.4	7.7	9.2	29.5	5.5

[1] Includes one family with negative income not shown separately.

Table 26.—SOUTH CAROLINA—NUTRITIVE CONTENT OF FOOD: Nutritive content of food consumed at home, in terms of calories and eight essential nutrients, per nutrition unit per day, by income and method of collection.

[Households of farm owner and cash renter families that include a husband and wife and one or more children aged 2-18 years, Flue-Cured Tobacco Area, February-April 1948. See Methodology for explanation of nutrition unit]

Net income class 1947 and method of collection	Households	Food energy	Protein	Calcium[1]	Iron	Vitamin A value[1]	Thiamine[2]	Riboflavin[2]	Niacin[2]	Ascorbic acid[1 2]
	No.	Cal.	Gm.	Gm.	Mg.	I. U.	Mg.	Mg.	Mg.	Mg.
All classes:										
List	80[3]	3,860	91	0.96	18	10,100	2.8	2.2	23	102**
Record	68	3,860	95	.99	18	8,240	2.8	2.4	24	70
Under $500:										
List	9	3,600	80	.60	19	9,710	3.0	1.5	21	83
Record	5	4,490	102	.98	23	10,610	3.2	2.9	27	84
$500-$999:										
List	7	3,750	83	.66	16	3,160	2.4	1.7	23	54
Record	8	3,540	82	.76	18	7,530	2.7	2.0	22	46
$1,000-$1,499:										
List	24	3,610	85	.85	17	6,620	2.7	2.0	22	86
Record	15	3.770	88	.83	17	9,940	2.7	1.9	22	73
$1,500-$1,999:										
List	13	4,190	105	1.35	20	11,700	3.2	2.8	25	128
Record	7	3,830	91	1.03	16	5,350	2.8	2.3	24	71
$2,000-$2,999:										
List	19	3,930	91	.99	18	14,040	2.8	2.3	24	114*
Record	16	3,880	102	1.19	17	5,860	2.9	2.7	25	67
$3,000 and over:										
List	7	4,140	100	1.21	19	14,430	3.1	2.6	26	127
Record	17	3,910	99	1.05	19	9,820	2.8	2.6	27	79

* Difference from record average significant at the 5 percent probability level.

** Difference from record average significant at the 1 percent probability level.

[1] Significance of the difference between averages for the two methods was tested at each income class. Significant differences were found only where indicated by asterisks. See p. 15 for description of test.

[2] Without adjustment for nutrient loss in preparation and cooking of food.

[3] Includes one family with negative income not shown separately.

Table 27.—SOUTH CAROLINA—DISTRIBUTIONS OF HOUSEHOLDS BY NUTRITIVE CONTENT OF FOOD: Percent of households having specified quantities of energy and eight essential nutrients in food consumed at home, per nutrition unit per day by method of collection.

[Households of farm owner and cash renter families that include a husband and wife and one or more children aged 2-18 years, Flue-Cured Tobacco Area, February-April 1948. See Methodology for explanation of nutrition unit]

Method of collection	Households	Food energy in food consumed at home per nutrition unit						Protein in food consumed at home per nutrition unit						Calcium in food consumed at home per nutrition unit					
			Households having specified quantities, in calories						Households having specified quantities, in grams						Households having specified quantities, in grams				
		Median quantity	Under 2,500	2,500-2,999	3,000-3,999	4,000-4,999	5,000 and over	Median quantity	Under 45	45-69	70-99	100-124	125 and over	Median quantity	Under 0.5	0.5-0.6	0.7-0.9	1.0-1.5	1.6 and over
	No.	Cal.	Pct.	Pct.	Pct.	Pct.	Pct.	Gm.	Pct.	Pct.	Pct.	Pct.	Pct.	Gm.	Pct.	Pct.	Pct.	Pct.	Pct.
List	80	3,764	5	19	35	26	15	86	2	20	48	15	15	0.9	6	19	33	32	10
Record	68	3,790	4	12	43	31	10	94	1	21	38	25	15	.9	13	13	31	31	12

Method of collection	Households	Iron in food consumed at home per nutrition unit						Vitamin A value in food consumed at home per nutrition unit					Thiamine[1] in food consumed at home per nutrition unit				
			Households having specified quantities, in milligrams						Households having specified quantities, in International Units					Households having specified quantities, in milligrams			
		Median quantity	Under 12	12-15	16-19	20-23	24 and over	Median quantity	Under 2,500	2,500-4,999	5,000-9,999	10,000 and over	Median quantity	Under 1.5	1.5-2.3	2.4-2.9	3.0 and over
	No.	Mg.	Pct.	Pct.	Pct.	Pct.	Pct.	I. U.	Pct.	Pct.	Pct.	Pct.	Mg.	Pct.	Pct.	Pct.	Pct.
List	80	17	11	25	29	19	16	6,663	21	15	33	31	2.7	5	31	29	35
Record	68	17	4	31	37	13	15	6,148	18	22	34	26	2.8	0	31	28	41

Method of collection	Households	Riboflavin[1] in food consumed at home per nutrition unit						Niacin[1] in food consumed at home per nutrition unit					Ascorbic acid[1] in food consumed at home per nutrition unit				
			Households having specified quantities, in milligrams						Households having specified quantities, in milligrams					Households having specified quantities, in milligrams			
		Median quantity	Under 1.2	1.2-1.7	1.8-2.3	2.4-3.5	3.6 and over	Median quantity	Under 15	15-20	21-26	27 and over	Median quantity	Under 25	25-74	75-124	125 and over
	No.	Mg.	Pct.	Pct.	Pct.	Pct.	Pct.	Mg.	Pct.	Pct.	Pct.	Pct.	Mg.	Pct.	Pct.	Pct.	Pct.
List	80	2.0	8	30	28	25	9	22	11	33	25	31	86	11	29	30	39
Record	68	2.2	12	18	31	29	10	23	4	25	36	35	68	9	50	32	9

[1] Without adjustment for loss of nutrients in preparation and cooking of food.

APPENDIX B

METHODOLOGY

The Sample

Eligibility requirements

In order to reduce variability and to ensure a certain amount of homogeneity in the group of families studied, certain requirements were set up which the participants were to meet. The important types of household, with husband and wife and a child or children, were to be included, while the less typical, all-adult families and "broken" families, those without both husband and wife, were to be excluded from the survey. More specifically, the eligibility condition with respect to family status required that the household include a husband and wife (not necessarily the male and female heads) and one or more children from 2 to 18 years of age.

The family must also have operated a farm in 1947. A farm operator was defined as one who operated at least three acres of farm land in one or more tracts, or raised farm produce worth at least $250. Farm families were classified by their major tenure, that is the one from which the income was highest.

Special eligibility requirement in Mississippi.—The data from only Mississippi Negro farm operators who farmed as sharecroppers in 1947 were analyzed. A sharecropper was defined as a farmer who in return for certain farming operations under an agreement with the landowner or other operator is allowed a proportion of the crop. The landowner or other operator customarily furnishes work animals and machinery needed for farming operations, makes all important decisions as to the enterprise and supervises the farming. The sharecropper commonly receives one-half the product, but may receive less when the owner or other operator furnishes more than the customary land, equipment and share of cash expenses.

Special eligibility requirement in South Carolina.—In South Carolina only families of farm owners and cash renter farmers in 1947 were eligible. A farm owner was one who derived the major part of his income from owned and operated farm land. A cash renter was one who derived the major part of his income from operation of farm land for which he paid cash rent.

Sampling procedures

The sampling was done by the Institute of Statistics, North Carolina State College. Detailed descriptions of the size and scope of the sample, the selection of sample counties, the selection of the families within each county, and other aspects of sampling procedure for the food study in five Southern States, of which this methodo-

logical study is a part, have been given in a previous publication,[1] and will not be repeated here. Several points are pertinent to this investigation, however. In each of the four counties which had been drawn in each of the two States, Mississippi and South Carolina, for the major food study in which the record method was used, a parallel sample was drawn in which the food list method of collection was used for the purpose of this methodological study. It was decided that the comparison of the record and list methods should be limited to approximately 100 list and 100 record families in each of the two States. Hence when after listing, it was found that there were more eligible families than were needed, some of those eligible were not revisited. The designation of the families to be visited was done according to scientific subsampling procedures.

Analysis of the samples

Although, for each State, the distribution by county of number of families visited and number of schedules obtained were not strictly parallel for the 2 schedule forms, the samples for the four counties considered together did yield approximately parallel samples. The characteristics of the participating and the nonparticipating families are discussed below in the analysis of the visits in each State.

Mississippi.—In Mississippi 932 families were visited, 424 for the record sample and 508 for the list sample. About three-fourths of each group was ineligible. Of these, about 6 percent of the record sample and about 22 percent of the list sample were nonfarm families. Of the farm families about half of each group was eliminated because they were not sharecroppers. About 20 percent of the sharecroppers were eliminated from the record group and about 8 percent from the list group because they were white. Approximately half of all the Negro sharecropper families visited were eliminated from each group because they did not meet the requirements as to family composition.

There were 105 eligible families for the record sample and 146 for the list. Of the record eligibles, 2 became ineligible after prelisting, 5 moved, 5 did not cooperate, and schedules were obtained from 93. Of the list eligibles, 2 became ineligible after prelisting, 6 moved, 41 were not asked to participate,[2] and schedules were obtained from 97.

Information was obtained on selected characteristics from all eligible families. In analyzing the data for the eligibles who were asked to participate, it was found that for the record sample the only differences between the few nonparticipating and the participating were that the nonparticipating families had a smaller percent having

[1] *Family Food Consumption in Three Types of Farming Areas of the South. I. An Analysis of 1947 Food Data.* Southern Cooperative Series, Bulletin 7 (1950).

[2] Not asked because of subsampling.

electricity and the female heads had more education. In the list sample there were too few nonparticipating to warrant analysis.

A summary of the characteristics of the scheduled families for the record and the list samples is shown in table 1. The only item in which there was a significant difference was "radio," with the record sample having a significantly larger percent.

From these various considerations there is nothing that would indicate that the two samples are not parallel.

Table 1.—MISSISSIPPI—FACILITIES AND CHARACTERISTICS: Percentage of participating families having, by method of collection.

Facility or characteristic	List	Record
	Percent	Percent
Water piped into house	0	0
Radio	30	39
Telephone	2	0
Automobile	68	67
Electricity in home	23	26
Schooling:		
Female heads		
Elementary uncompleted	84	87
High school—at least some	5	2
Male heads		
Elementary uncompleted	93	92
High school—at least some	1	2
Average number of persons living in house	5.9	6.1

South Carolina.—In South Carolina 843 families were visited, 419 for the record group and 424 for the list group. About three-fourths of each group was ineligible. Of these the ones eliminated because they were nonfarm families amounted to about 10 percent of the record group and about 17 percent of the list group. Of the farm families about 70 percent of each group were eliminated because they were not owners or cash renters. About 40 percent of all owners and cash renters visited were eliminated from each group because of family composition. Approximately 75 percent of the owners and cash renters eliminated from each group because of family composition were owners.

There were 111 eligible families for the record sample and 123 for the list sample. Of the record eligibles, 24 were not revisited,[3] 1 moved, 17 did not cooperate, 1 was omitted through error, and schedules were obtained from 68. Of the list eligibles, 36 were not revisited,[3] 1 moved, 6 did not cooperate, and schedules were obtained from 80.

Information on selected characteristics was obtained from all eligible families. From the eligibles who were asked to participate, it was found that for the record sample there was only one item in

[3]Not asked to participate because of subsampling.

which there was a significant difference between the nonparticipating and the scheduled families, and that was for "radio," with the nonparticipating having a larger percent. For the list sample there were so few nonparticipating that no analysis was feasible.

The scheduled families for the 2 samples differed in percent of those having "water piped into the house," "radio," and "electricity." (Table 2). Although these differences were statistically significant, they were not consistent in direction, so that it cannot be said that one group was at a different economic level than the other, and it can be assumed that the 2 samples were adequate for purposes of this study.

Collection of Data

Field work

The field work was done in two steps, prelisting and schedule collection. Local qualified residents were hired as interviewers, and attended training schools in their respective States. Training included practice in locating and bounding areas, prelisting, filling a food list and initiating a food record. Written instructions giving detailed explanation of entries on reporting forms were furnished the interviewers for use during training and for reference during collection of data.

Table 2.—SOUTH CAROLINA—FACILITIES AND CHARACTERISTICS: Percentage of participating families having, by method of collection.

Facility or characteristic	List	Record
	Percent	Percent
Water piped into house	12	26
Radio	92	81
Telephone	1	0
Automobile	71	72
Electricity in home	71	53
Schooling:		
Female heads		
Elementary uncompleted	45	40
High school—at least some	48	53
Male heads		
Elementary uncompleted	50	46
High school—at least some	36	40
Average number of persons living in house	6.1	6.7

Each interviewer was furnished with county road maps on which were marked two sets of areas, one for the record sample and the other for the list sample. Prelisting was done in the same way for the two methods of collection.[4] Each interviewer collected both lists and records throughout the collection period.

[4] See *Family Food Consumption in Three Types of Farming Areas of the South.* I. *An Analysis of 1947 Food Data,* Southern Cooperative Series Bulletin 7 (1950).

Information requested

For the week—List method.—With the list method, in addition to information on quantities and source of food used at home during the week, and the cost of each purchased food used, information was also obtained on the meals served to each household member from family food supplies, expense for meals and other food away from home, a summary for the week of quantities of foods included on the food list but not eaten, and the recipes usually used for corn bread and biscuits.

For the week—Record method.—In addition to the inventories and description of food on hand at the beginning and close of the survey period and the record of quantities of food brought into the home during the period, information was obtained on the source of the food, and if purchased, the cost of the food. A daily record was kept of the number of meals served to each household member, including guests, boarders, and paid help. A record of the age, height, weight, and occupations of each person fed was included, as well as of menus served, recipes of certain mixed dishes, and of food (from this supply) fed to animals, put in the garbage can, etc.

Both methods.—Identical forms were used to obtain certain annual data regardless of which method was used to obtain the food data for the week. This form included 1947 data on (1) family and household composition, (2) income, and (3) total food used in the year, including expenditures for food and quantities of foods produced and consumed at home. Family size, occupation and other data needed for the analysis of the sample were obtained from all families, including those who were not asked to give schedules, in the same way.

Tabulation of the Data

Classification of families by net income

Families were classified by net income in the calendar year 1947. This was the sum of net receipts from the following: (1) farm operation adjusted for inventory change, expense of food for farm help, and family use of electricity, automobile, and repairs on family dwelling, and exclusive of value of food without direct expense; (2) farm wages and salaries; (3) nonfarm wages, salaries, and profits; (4) all other nonfarm income except nonrecurrent income, such as inheritances and terminal leave allowances.

In valuing changes in inventory, only differences in value due to quantity changes were included.

Classification of quantities of food into food groups

In food consumption studies it is usual to classify individual foods into food groups on the basis of similarity of foods as sources

of important nutrients. The classification adopted for this study is similar to that used by the Bureau of Human Nutrition and Home Economics in other recent food consumption surveys. Foods are classified in 11 main food groups. Food accessories, tabulated only for expenditures, make up a twelfth group. Foods that were given away, spoiled, fed to animals, or discarded for any reason were not included in the food group totals. Quantitative adjustments were made in the fats and oils group on the basis of changes in supply of fat salvage on hand at the beginning and closing inventories of the food record, or reported as on hand at the beginning and ending of the week covered by the food list.

Most of the summation into total pounds for food groups are by simple addition of reported quantities of individual foods, for example, combining vegetables, with greens and without greens, fresh or canned, fruits fresh or canned, meat with bone and boned, and the like. In this investigation interviewers were given careful instructions to report on whether meats were with bone or boned and whether vegetables were with inedible refuse or without. In filling the food record interviewers were instructed to cut off carrot tops (greens) and other inedible tops (if agreeable to the homemaker) before weighing them and to specify whether or not this was done. The food list provided spaces for interviewers to check like information for certain vegetables; namely, for beans and peas whether shelled or in shell; for corn, whether husked or in husk; and for carrots, beets, rutabagas, and turnips whether with greens or without greens. However for the food list there was no instruction that carrots and other vegetables were to be reported without greens in preference to reporting with greens.

Milk and milk products other than butter.—Includes fluid milk and other forms of milk, cream, ice cream, and cheese, of which all but fluid milk have been converted to equivalent quantities of fluid whole milk with the use of factors shown below. However, although the factors shown apply well in equating the various products to whole milk on the basis of protein and except in the case of cottage cheese, also to minerals, they may not apply to the other nutrients.

ITEM	Factors for converting pounds of specified products to pounds of milk
Evaporated milk	2.0
Condensed milk	2.4
Dry skim milk	9.8
Dry whole milk	7.6
Cream	.7
Ice cream	1.2
Cottage cheese	5.6[1]
Cream cheese and cream cheese spreads	1.9
American, Swiss, and other cheese	6.9

[1] Based on protein only.

Fats, oils.—Includes butter and other table fats; oils (salad and cooking), salad dressing, mayonnaise, lard, other shortening, bacon, salt pork, cracklings, etc. Includes fat salvage as an adjustment for accumulation or reduction in quantity of fat drippings during the week. Excludes fat in commercially baked goods.

Meat, poultry, fish.—Includes fresh, cured, canned, frozen products; boned and with bone; live, dressed, and drawn (poultry and fish); shelled and in shell (shellfish). Includes bouillon cubes and meat equivalent of meat soups; includes total weight of purchased meat mixtures, which are considered main meat dish at meals, without conversion of weight on basis of meat content. Excludes bacon and salt pork.

Eggs

Dry beans and peas, nuts, and cocoa.—Includes equivalent dry weight of canned and ready-cooked beans and peas, in soups and other mixtures. Includes shelled equivalent of nuts in shell. Includes dry cocoa, and chocolate.

Potatoes, sweetpotatoes.—Includes fresh and canned.

Tomatoes, citrus fruit.—Includes fresh and canned. Includes tomato soup, catsup, and the like. Includes single strength equivalent of concentrated juice.

Leafy, green, and yellow vegetables.—Includes fresh, canned, frozen, and fresh equivalent of dried and dehydrated leafy, green, and yellow vegetables (except sweetpotatoes, rutabagas, summer squash, corn, cucumbers).

Other vegetables and fruit.—Includes vegetables not included above and fruit other than citrus. Includes fresh, canned, ready-cooked, frozen, and fresh equivalent of dehydrated or dried vegetables and fruit. Does not include fruit in commercial fruit pies. Includes soups and ready-cooked mixtures, chiefly vegetables. Includes pickles, olives.

Sugars, sweets.—Includes sugars, sirups, honey, molasses; candies; jams, jellies, preserves, marmalades; dry packaged puddings, powdered drinks, and the sugar equivalent of ready prepared puddings, soft drinks, sherbet, popsicles, and the like. Does not include sugars in commercially baked goods, canned fruit, and the like.

Grain products (flour equivalent).—Includes flour, meals, uncooked cereals, and pastes, ready-to-eat cereals, and dry prepared mixes. Includes dry equivalent of ready-cooked or canned cereals, pastes, and soups chiefly grain products. Includes flour equivalent of commercially baked goods. Includes yeast.

Accessories (expense only).—Includes leavening agents, condiments, flavorings; coffee and tea, and the like.

Calculation of nutritive content of foods

Quantities of food in pounds were multiplied by composition values of each food in terms of calories, protein, calcium, iron and five vitamins. Food composition values published in 1945 by the Bureau of Human Nutrition and Home Economics in **Tables of Food Composition in Terms of Eleven Nutrients,** Miscellaneous Publication No. 572, were used in calculating the nutritive content of the diets wherever possible. For foods not included in that publication, composition values were based on other compilations, on original data in the literature, or on results of laboratory analyses. The revisions of food composition values published in Agricultural Handbook 8, which became available since these computations were made, have not been incorporated in the data published in this report; it is likely that use of the revised values would show approximately the same results for food energy and all the nutrients except thiamine. Since the thiamine averages by the two methods are very close (identical in several instances), it is unlikely that had the revised composition values been used, significant differences by method in thiamine averages would have resulted—even when taking account of the larger meat quantities reported by the record method in South Carolina.

The food composition values used allow for refuse, such as bones, peelings, and other inedible refuse discarded in preparing the food, and for slight defects in fruits and vegetables. No allowance is made, however, for unusually low yields of edible portions such as is associated with food of inferior quality, or for spoilage in the home. Values for meat include the caloric value of the separable fat as well as the muscle portions of meat cuts.

In computing the nutritive content of the diets no account was taken of calcium which might have been obtained from water or baking powder; nor has any adjustment been made in the averages for loss of vitamins during the preparation and cooking of food. It was assumed that for the groups of families compared such adjustments would be similar and hence would not affect the differences between them.

Computation of averages

Averages **per household** were computed by dividing aggregates for groups of households by the number of households considered.

Averages **per person** were computed by dividing household quantities by the number of equivalent persons in the household.

Twenty-one meals were considered equal to an equivalent person, without regard to sex, age, or nutritional need of the individual consuming the meal.

Averages **per nutrition unit** were computed by dividing the aggregate nutritive content of the food by the number of equivalent nutrition units represented by the persons sharing the food. These averages facilitate comparisons of the nutritive content of food consumed by households of quite different composition and ages, by reducing the varying nutritional needs of persons of different sex, age, and physical activity to a common unit. In this study the nutritional need of a physically active adult male for each of the nine dietary essentials studied was used as one equivalent nutrition unit. The nutritional needs of persons in other sex-age-activity groups were expressed, respectively, as relatives of the needs of the physically active adult male.[5] The averages per nutrition unit shown in tables 12, 13, 26 and 27 for all families, and by income classes, have been computed by totaling averages per nutrition unit for each household and dividing by the number of households in each group.

Valuation of Food Received Without Direct Expenditures

Food without direct expenditures included that which was produced by family members, received as a gift or in payment for services by family members, or furnished by the landlord.

Similar editorial procedures were followed for food lists and food records in computing the money value of such food, family by family. If the food was produced locally it was valued at prices farmers would have received for it had they sold it. If not produced locally the food was valued at local retail prices. Food received without direct expenditures which was included in canned or other processed products was valued at 1947 farm prices, without addition of value of sugar or any other foods added thereto.

[5]These were derived from the daily allowances for calories and the specific nutrients recommended by the Food and Nutrition Board of the National Research Council, Reprint and Circular Series, No. 129, October 1948.