THESIS

March 1, 1938

To the Committee on Graduate Study:

I submit herewith a thesis written by Samuel L. Hansard and entitled "A Study of Consumers' Preferences and Practices in Buying and Using Eggs and Meat in Knoxville, Tennessee," and recommend that it be accepted for eighteen quarter hours credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Animal Husbandry.

W. R. Duncan
Major Professor

At the request of the Committee on Graduate Study, we have read this thesis and recommend its acceptance:

L. C. Wylie

O. W. Bynes

Accepted for the Graduate Committee

F. C. Lewis
Dean

# A STUDY OF CONSUMERS' PREFERENCES AND PRACTICES IN BUYING AND USING EGGS AND MEAT IN KNOXVILLE, TENNESSEE

—

A THESIS

—

Submitted to the Graduate Committee

of

The University of Tennessee

in

Partial Fulfillment of the Requirements

for the degree of

Master of Science

—

by

SAMUEL LEROY HANSARD

June 1938

CONTENTS

PAGE

Introduction . . . . . 1

Need for the Study.

Object of the Study.

Scope and Nature of the Study.

Review of Literature . . . . . 7

Eggs.

Meats.

The Survey Revelation . . . . . 18

The West Knoxville Section.

The Sequoyah Hills Section.

The Park City Section.

The Textile Mill Section.

Summary of Results . . . . . 98

In Conclusion . . . . . 110

Bibliography . . . . . 117

26 Oct 38 MB. 9s

154230

TABLES IN TEXT


| Table | | Page |
|---|---|---|
| I. | West Knoxville, Preferences and Practices in Buying and Using Eggs | 20 |
| II. | West Knoxville, Preferences and Practices in Buying and Using Meat | 27 |
| III. | Sequoyah Hills, Preferences and Practices in Buying and Using Eggs | 36 |
| IV. | Sequoyah Hills, Preferences and Practices in Buying and Using Meat | 42 |
| V. | Park City, Preferences and Practices in Buying and Using Eggs | 48 |
| VI. | Park City, Preferences and Practices in Buying and Using Meat | 54 |
| VII. | The Textile Mill Area, Preferences and Practices in Buying and Using Eggs | 61 |
| VIII. | The Textile Mill Area, Preferences and Practices in Buying and Using Meat | 68 |
| IX. | The Total Number of Households and the Average Number of Persons per Household | 74 |
| X. | Classification of Residences in Surveyed Area | 76 |
| XI. | Summary of Consumers' Preferences and Practices in Buying and Using Eggs in Knoxville, Tenn. | 83 |
| XII. | Sources of Knoxville's Egg Supply | 85 |
| XIII. | Consumers' Preference for Egg Shell Color in Knoxville | 86 |
| XIV. | Consumers' Preference for EGG YOLK Color in Knoxville | 87 |
| XV. | Consumers' Preference for Egg White Condition | 90 |
| XVI. | Meal Eggs Used in Knoxville | 92 |

TABLES (Continued)


| Table | | Page |
|---|---|---|
| XVII. | Preference in Egg Use by Percentage Consumption in Knoxville Areas | 93 |
| XVIII. | Number of Eggs Used Daily per Person and Per Capita Consumption | 95 |
| XIX. | Summary of Consumers' Preference and Practices in Buying and Using Meat | 98 |
| XX. | Meat Markets Patronized in Knoxville | 100 |
| XXI. | Number Times Meat Served Daily | 102 |
| XXII. | Per Capita Consumption of Meat | 103 |
| XXIII. | Buying Practices of Knoxville Consumers | 108 |

FIGURES IN TEXT


| Figure | | Page |
|---|---|---|
| 1. | West Knoxville's Consumers' Preference for Meat as By Percent Consumption . . . . . | 24 |
| 2. | Consumer Preference of Egg Usage in West Knoxville . . . . . | 25 |
| 3. | Consumer Preference of Egg Usage in Sequoyah Hills . . . . . | 40 |
| 4. | Consumer Preference for Meat in Sequoyah Hills Section . . . . . | 41 |
| 5. | Consumer Preference for Egg Usage in Park City Area . . . . . | 52 |
| 6. | Consumer Preference for Meat in Park City Section . . . . . | 53 |
| 7. | Consumer Preference for Egg Usage in Mill Section . . . . . | 65 |
| 8. | Consumer Preference for Meat in Mill Section. | 66 |
| 9. | Classification of Residences Surveyed in Knoxville . . . . . | 75 |
| 10. | Sources of Knoxville's Egg Supply . . . . . | 88 |
| 11. | Knoxville's Consumer Preference for Egg Shell Color . . . . . | 91 |
| 12. | Knoxville's Consumer Preference for Egg Yolk Color . . . . . | 91 |
| 13. | Knoxville's Consumer Preference for Egg White Condition . . . . . | 91 |
| 14. | Egg Uses in Knoxville . . . . . | 94 |
| 15. | Meals Eggs Used in Knoxville . . . . . | 94 |
| 16. | Meat Markets Patronized by Knoxville Consumers | 101 |
| 17. | Number Times Meat Served Daily in Knoxville . | 101 |
| 18. | Knoxville's Percentage Consumption of the Different Kinds of Meat . . . . . | 104 |
| 19. | United States Percentage Consumption of the Different Kinds of Meat . . . . . | 105 |

# ILLUSTRATIONS


| Illustration | | Page |
|---|---|---|
| 1. | Pictures of 'Excellent Type' Homes . . . | 78 |
| 2. | Pictures of 'Good Type' Homes . . . . . | 79 |
| 3. | Pictures of 'Fair Type' Homes . . . . . | 80 |
| 4. | Pictures of 'Poor Type' Homes . . . . . | 81 |
| 5. | Pictures of 'Very Poor Type' Homes . . . | 82 |

# A STUDY OF CONSUMERS' PREFERENCES AND PRACTICES IN BUYING AND USING EGGS AND MEAT IN KNOXVILLE, TENNESSEE

---

## INTRODUCTION

It is an assumed fact that before the marketing of any farm product can be successfully be carried out to completion, the producer himself must first have some knowledge of the habits and preferences of the consumer whom he is to supply with this product. This knowledge may help him in many ways to improve upon the quality or grade of his product or the methods used in getting it to the consumer public.

This consuming population might be divided into several classes. However, the division, from a producers standpoint, would be made according to the ability of this people to buy the product they desired. Then, the first problem that arises is that of personal preference versus ability to pay for that which is desired, and as the lower class of consumer is reached this is especially noticeable. However, since the producer must cater to all classes of consumers, it is essential that he know the preferences they have of his product, in order that he may meet the demands with the greatest success.

This relationship is pronounced in the business of market eggs and meat production. The farmer must cater to the consumer's personal desires for his product.

"As the custodian for the Nation's expenditures, both for food

and other necessities, the American housewife is the empress of all she surveys." It is the housewife who determines whether brown eggs shall sell at a premium over white eggs. It is she who sets the price of meat, eggs or livestock. When cattle are selling at nine cents per pound and porter-house steak at forty-one cents, that fact is another way of saying that Mrs. Housewife wants what she wants even if Mr. Farmer has to grow 100 pounds of steer to supply her with 4.5 pounds of porter-house steak. Of course the steer produces about five times as much chuck and plate beef as steak and she could buy them, or several other cuts at about half the price of the steak, but still she and her neighbors want porter-house and thus they keep the price high by centering so much demand on the rather limited supply of it. If she prefers steaks to roasts, or hams to spare ribs the roasts and spare ribs are sold for considerable less than steaks or hams. If her purse shrinks, the prices must shrink accordingly, or if increasing income expands her purse a bit, the prices of meat or eggs, by competition, must increase accordingly. Consequently, it is really Mrs. Consumer who controls the demands and prices of both our eggs and meats, and therefore it is her preference which shall be studied in the Knoxville vicinity.

## OBJECT OF THE STUDY

It should be made clear at the outset that this study is not directed toward the determination of the relation of variation in quantity demand to price change. On the contrary, the aim of this study was to obtain information which might help to ascertain whether the consumers of Knoxville have a preference regarding the eggs and meat they buy, and to determine the variation in this preference relative to the different

standards of living represented in the city. This was done with the hope of making more clear some of the purchasing habits of housewives, and with the hope of bringing consumer and producer to "common grounds" that market wastes and costs may be reduced; that there might be a correction of mistaken ideas and beliefs about these products, and that the local producer may know what his market prefers in regard to these two major farm products.

## SCOPE AND NATURE OF THE STUDY

The data used in this study was obtained during the school year 1936-37, through personal interviews with four hundred Knoxville housewives, representing one thousand eight hundred forty-one people.

This study was carried out in four representative districts which were chosen to bring out the variations in preferences and practices among the consumers of different income groups.

The Sequoyah Hill Section consisted of those families with incomes sufficiently large to live in the most exclusive section of the city and to employ servants. They were representatives of the city's wealthy class of residents.

The West Knoxville Section consisted of salaried and professional workers, and their families, with incomes sufficiently large to live well and employ occasional servants. They were representative of the well-to-do class of people.

The Park City Section consisted of families living in modest homes in the poorer residential section of the city, with somewhat limited incomes. They are representative of the middle class of people.

The Textile Mill Section included those families living in one of the poorer white sections of the city, and whose family incomes were very limited. The better homes of this section were not included in the survey.

It is worth while to emphasize that the distinction on which these four groups were based was necessarily one of standard of living rather than absolute incomes. Likewise, classification among these groups were made. In establishing this classification of the family and home the interviewer was guided by the housewife's statements regarding her husband's occupation and by other visible environmental factors.

The housewives interviewed were selected at random with the idea of getting an average representation for the section studied and of the varied commercial interests of Knoxville as a whole.

With very few exceptions the visitor was courteously received, and the desired information willingly contributed with many supporting statements on various parts of the questionnaire. This interest on the part of the consumer added much to the study and increased accordingly the value to the visitor regarding marketing habits and general attitude between producer and consumer. Each interview required about fifteen to eighteen minutes, depending upon the attitude of the consumer visited.

## THE QUESTIONNAIRE

It will be noted that this questionnaire included only those questions for which it was believed reliable and satisfactory answers could be obtained. These results are presented separately for the four areas

studied and together as a summary for the city.

EGG CONSUMPTION SURVEY BLANK
Animal Husbandry Department
University of Tennessee

EGGS

Street_____ Number in Family_____

1. Number of eggs used weekly_____doz.

2. Source of eggs: Chain Stores_____ Independent groceries_____
Farm delivery_____ Market wagons _____

3. Egg preference: (Check the condition you prefer).
(a) Shell color: Brown shell_____ White shell____

(b) Yolk color: Light Yellow_____ Med. Yellow____
Deep orange_____

(c) Condition of egg white: Watery____Medium____Thick____

(d) Egg size: Large_____Medium____Small____

4. Egg buying:
(a) How many eggs bought are non-edible?_____

(b) On what basis do you judge your eggs when buying?
(1) Accept the groceryman's statement?_____
(2) Examine the eggs yourself? _____

(c) If eggs are examined by yourself, what factors do you consider?_____
_____

(d) Do you pay a premium on "fresh" eggs? Yes____No_____

5. Egg uses:
(a) Number of eggs used daily for: (1) Frying_____
(2) Poaching_____ (3) Boiling_____
(4) Cooking_____ (5) Scrambling_____

(b) At what meal are the most eggs used? (1) Lunch_____
(2) Breakfast_____ (3) Dinner_____

(c) Are you satisfied with the quality of the eggs you are now using? Yes_____ No_____

6. Home Classification:
(a) Excellent____ Good____ Fair____ Poor____ Very Poor___

7. Occupation:_____

8. Season survey made:_____

THE

MEAT CONSUMPTION SURVEY

Animal Husbandry Department

University of Tennessee

MEAT

1. Number of members over 4 years in family. _____

2. How many meat markets do you patronize? _____

3. How many times do you serve meat each day? _____

4. How much meat does your family use per week? Lbs. _____

   (a) Average pounds of bacon per week _____
   (b) Average pounds of sausages per week _____
   (c) Average pounds of pork per week _____
   (d) Total pounds of pork per week _____
   (e) Average pounds of beef and veal per week _____
   (f) Average pounds of lamb per week _____
   (g) Average pounds of poultry per week _____
   (h) Average pounds of fish per week _____

5. Cuts of meat bought direct from farmers. _____

6. Does your family prefer fat____or lean____cuts of beef?

7. Does your family prefer fat____or lean____cuts of pork?

8. What cuts of meat do you use and find most satisfactory?_____

9. What cuts of meat do you find least satisfactory?_____
   (a) What makes them so?_____

10. Do you buy the expensive____or less expensive____cuts?

11. Do you use hog lard____or vegetable oil compounds____?

12. Does your butcher take particular pains in boning or otherwise preparing your cuts for cooking or serving? Yes____No____.

## REVIEW OF LITERATURE

Throughout the history of our Extension Department there has been much work done to stimulate, encourage and direct the production of quality eggs and meats, but even with that there is much extended research to be completed before this goal can be entirely reached. More needs to be revealed through a deeper study of those problems pertaining to the producer---consumer relationships; the personal side of the question of marketing and preferences must be given even more consideration.

This brief study of other work done pertaining to the egg and meat situation will indicate various practices and preferences of different classes of people in different sections of the country and will provide a basis for comparison with that obtained for Knoxville, as it is revealed in the survey.

## CONSUMER'S PREFERENCE AND PRACTICES IN BUYING AND USING EGGS

In this study we will begin with Knoxville, Tennessee. In 1933 T. L. Mayes made a survey of 100 homes in West Knoxville among the "well-to-do" class of people and revealed some very interesting facts.[1] It was found that 2.17 dozen per family per week or 1.08 eggs per person per day were consumed by this group of 250 people studied. This would be a per capita consumption of 32.8 dozen eggs. There was equal preference for white and brown shell eggs. Eighty per cent desired a medium yellow yolk and seventy-two per cent a medium white. Seventy-six per cent preferred a medium sized egg and fifty-eight preferred to get these directly from the farmers (see inclosed table).

1 Mayes, T. L. Egg Consumption in West Knoxville, 1933. Poultry Husbandry Department, Knoxville, Tennessee.

MAYES SUMMARY OF EGG CONSUMPTION IN WEST KNOXVILLE 1933[1]

| | |
|---|---|
| No. of families | 100 |
| Average number in family | 2.5 |
| Number of eggs used weekly | 217.5 |
| Number dozen per family weekly | 2.17 |
| SOURCE OF EGGS: | |
| Chain Store | 23 |
| Farm delivery | 51 |
| Independent grocery | 26 |
| Market wagons | 7 |
| EGG PREFERENCE: | |
| Shell Color: | |
| Brown | 51 |
| White | 49 |
| CONDITION OF SHELL: | |
| Clean | 100 |
| YOLK: | |
| Light yellow | 6 |
| Medium yellow | 80 |
| Deep orange | 11 |
| WHITE CONDITION: | |
| Watery | 2 |
| Medium | 72 |
| Thick | 24 |
| EGG SIZE: | |
| Large | 26 |
| Medium | 73 |
| Small | 1 |

1 Mayes, West Knoxville Summary, 1933

EGG BUYING:

| | |
|---|---|
| Eggs bought edible | 91 |
| Number accepting groceryman's st'm't | 44 |
| Number examining eggs themselves | 35 |

FACTORS DETERMINING BAD EGG QUALITY:

1. Appearance, 2. Color, 3. Size, 4. Shape, 5. Cleanliness.

| | |
|---|---|
| Number paying a premium on fresh eggs | 59 |

EGG USES: (Daily)

| | |
|---|---|
| Frying | 46.11 |
| Poaching | 18.50 |
| Boiling | 10.07 |
| In cooking | 52.01 |

MEAL EGGS USED:

| | |
|---|---|
| Breakfast | 83 |
| Lunch | 6 |
| Dinner | 12 |
| Number satisfied with present egg quality | 96 |

However, as shown above, 23 per cent patronized the independent grocery and 26 per cent the chain store. They were all satisfied with their supply of clean eggs with the exception of four per cent. Thirty-five per cent of these housewives examined the eggs themselves and only fifty-nine per cent were willing to pay a premium for fresh eggs.

Eggs were found to be decidedly a breakfast food with 83 per cent using them as such. However, 40.81 per cent were used in the cooking and this spread the consumption out somewhat throughout the day. 18.5 per cent were used for poaching, 10.07 per cent for boiling, and 36 per cent for frying. The results of this work indicated that in 1933 West Knoxville consumers preferred a clean, brown shell egg of medium size with a medium yellow yolk and a medium white furnished directly by the local farmers.

In 1928, C. E. Allred[1] and J. C. Powell made a study of the egg consumption in rural Tennessee. All of these results are not directly applicable to this study, but it is of interest to note a few of the comparative factors which it presents.

The state average egg consumption is 14.3 dozen per person, with the area (Knoxville) this study is located in being 13.0 dozen per capita. This district Knoxville is located in produces 74.6 dozen eggs per farm person, and 25 per cent of these are used for home consumption, the remainder being marketed.

1 Allred, C. E. and Powell, J. C., Consumption of Dairy Products and Eggs in Rural Tennessee, 1928, U. T. Agri. Econ. & Rural Sociology Rep't. No. 19, 1936.

TENNESSEE COMPARED WITH OTHER STATES

| STATE | EGGS (DOZENS PER CAPITA) |
|---|---|
| Tennessee | 14.3 |
| Mississippi | 31.6 |
| Ohio | 25.9 |
| Iowa | 26.5 |
| Georgia | 19.8 |
| United States | 18.3 |

These tables, from a survey of 4,165 people of 850 white farm owner families (for Tennessee) show Tennessee to rank considerably below the average for even rural United States in per capita consumption.

A somewhat similar study was made by Charles and Lininger in Pennsylvania[1] in 1938, of Pittsburg and several of the nearby cities. Of these six cities studied, with one exception, color of egg shell was not an important factor when all the families of each city were grouped together. However, in the wealthier sections of Pittsburg there was some preference toward white shell eggs. In Williamsport the middle class was decidedly in favor of brown eggs. In the wealthier sections 32 per cent bought eggs from the farmers as did the same number in the middle class section, but in the poorer locality only six per cent reported as buying directly from the farmers. As a whole, then, this study revealed that, in Pennsylvania, the per cent of families buying from farmers was higher among the wealthy families, somewhat less among the middle class families and least among families residing in the poorer sections.

[1] Charles, T. B. and Lininger, F. F., Study of Egg and Poultry Consumption in Penn., 1928. Penn. State Expr. Station Bul. 222.

Again, it was found that the families in the poorer residential sections were less discriminating as to egg quality, and this was true in spite of the fact that they bought eggs more generally from the agencies selling lower garde eggs. People of these cities were willing to pay more to receive products directly from producers.

The per capita consumption of eggs for this surveyed area was 28.7 dozen annually or slightly less than an egg a day per person. In general, more eggs were used for cooking and baking in this higher income group. Consumption was highest (34.6 dozen) among the higher income groups and lowest among the poorer income groups (24.56 dozen). The preferences were found to vary widely between cities, between income groups, and between nationalities studied.

A study of the Rhode Island consumer by R. H. Corbett in 1928, and again in 1932 revealed some facts regarding the preferences and practices of eggs in the towns of Providence, East Greenwich and Wakefield.[1] These towns were divided as to income and studied separately.

The average per capita consumption was found to be thirty dozen for both 1928-1932. Less than one-half of the housewives preferred brown eggs and most of them wanted light to medium yolks. Eggs were essentially a breakfast food, being used in the forms as follows in order of popularity: boiled, fried, scrambled, and poached. They preferred large, fresh eggs for this purpose and most of them were willing to pay a premium for this advantage.

[1]Corbett, R. B. A Study of Consumers Preferences and Practices in Buying and Using Eggs, 1928, 1932. R. I. Agri. Expr. Sta. Bul. 240.

The wealthier families had fewer children, bought more of their eggs directly from the farmers, bought in larger lots, and consumed more eggs than any of the other classes. However, the well-to-do classes run close in all of the above factors. The wealthier groups had less preference as to shell color and size of egg than any of the other classes.

A great number of the housewives felt that they could tell a fresh egg by appearance and shaking it, and the number of inedible eggs was decidedly low for these better sections.

The study of these cities indicated that there was a great variation between sections of different incomes in different cities, but consumption was not materially retarded by high price or poor quality.

A similar study was made in New York City by Thomsen and Winton from the Columbia, Missouri Agricultural Experiment Station,[1] of actual consumers' preferences for yolk and shell color in the eggs shipped to that market from Missouri. Consumers representing all major elements of the City's population, numbering 10,358, were asked to express their preferences for eggs of light, medium and dark yolks, and brown and white shells, which were offered for their inspection. Slightly more than fifty per cent of those interviewed expressed a preference for white shells. The remainder either preferred brown shells or had no color preference. Slightly more than 33 per cent expressed a preference for light yolks, one-quarter for dark yolks, one-fifth for yolks of medium color and the remaining twenty per cent had no preference. There were surprisingly

[1]Thomsen, F. L. and Berley Winton, Consumer Preferences for Egg Yolk Color and Shell in New York City, 1933. Mo. Agri. Expr. Sta. Bul. 329.

few differences in choice of yolk color among groups of different purchasing power. The only pronounced exceptions were the groups with fair and excellent purchasing power. The preference of the former was for eggs with medium to light yolk color; whereas the group with excellent purchasing power preferred eggs with medium to dark yolk color.

No relationships between shell color preferences and degree of purchasing power was found, although it was significant that the group having the highest income showed the strongest preference for brown shells as they did the darker yolks. Curiously enough, the poorer people followed the well-to-do in this tendency, with those of intermediate purchasing power being more inclined to favor the white shells and light yolks.

The results of this study suggested some important recommendations, among which was included a program of service to retail distributors of eggs designed to eliminate present discriminations against mid-western eggs which was not the result of actual quality differences, and a program of consumer education designed to eliminate false prejudices against brown shell and medium to dark yolk eggs, and make it possible to obtain premiums for mid-western eggs when actual quality may justify. Similar programs could be worked out for any city where a like prejudice existed.

## CONSUMERS' PREFERENCES AND PRACTICES IN BUYING AND USING MEATS

In 1928 C. E. Allred and J. C. Powell made a study of meat consumption in Rural Tennessee[1] that revealed some very interesting facts regarding meat consumption not only for the state as a whole but for the section of the state where Knoxville is located. The per capita meat consumption in the state was found to be greater in the western half than the eastern half. The district where Knoxville is located was among the lowest consumption areas, with that of the Central Basin ranking highest. The Knoxville section ranked high in the consumption of starchy foods, however.

Per Capita Consumption of the Different Classes of Meat in the Knoxville District, 1928.....

| CUT | POUNDS PER CAPITA |
|---|---|
| Pork | 131.30 |
| Poultry | 14.87 |
| Beef | 5.13 |
| Veal | .62 |
| Mutton & Lamb | 1.21 |
| Fish | .88 |
| Game | .54 |
| Total | 154.55 |

As is noted above, the district ranked highest in pork consumption with poultry next and beef third in pounds consumed per capita. The state average consumption of all meat was 146.1 pounds as compared with the rural average of 169.6 pounds, 146 pounds of which is pork. It was found that more than 85 per cent of all meat consumed in Tennessee is

[1]Allred, C. E. and Powell, J. C., Meat Consumption in Rural Tennessee, 1928. U. T. Agri. Econ. and Rural Sociology Dept. Report No. 16, 1936.

pork. Whereas the percentage consumption of this cut for all urban and rural people of the U. S. was 23.3% and 52.6% respectively, while beef, mutton, fish and other meats were usually more important among urban people.

A study of consumers habits and preferences in the purchase and consumption of meat in some of the larger cities of our country was carried on by the United States Department of Agriculture under the direction of K. B. Gardner and L. A. Adams in order to reveal these factors and their influence upon the market for meat.[1] The surveys covered 16 cities and 20,744 persons chosen to bring out regional and income distinctions which might exist in the purchasing and consumption of meat.

In these areas beef was the preferred meat in two-thirds of the households; pork, lamb and veal were preferred in the order named. Preference for pork decreased and that for lamb increased as the standard of living increased. This was attributed largely to the effect of price variation between the two commodities. Pork found favor among the poorer class because of its lower price. Lamb found favor among the wealthy households because preference outweighed price consideration. Veal was preferred in about the same relative amounts by all classes. Meat was served in the household on an average of 2.1 times per week for each of the meals, breakfast and lunch, and 5.6 times per week at dinner. Meat was served most frequently in the homes of the poor and middle class groups.

Over fifty per cent of the housewives patronized only one meat market, with this percentage decreasing as the standard of living de-

[1]Gardner, K. B. and Adams, L. A., Consumer Habits and Preferences in the Purchase and Consumption of Meat. U.S. D. A. Dept. Bul. 1443, 1926.

creased. Of special interest to the retailers are the factors which influenced the customers to trade with them. 44.2 per cent of the 2,700 housewives surveyed stressed the fact that preference for the quality of meat handled and the care taken in preparing it, was the principal reason for trading with them. The consumer of the wealthy class, however, put more emphasis on this and good service than did the other classes studied. Consequently, preferences and practices were found to be closely related.

Speaking from a comparative viewpoint, therefore, it is seen that in volume this information regarding the preferences and practices in buying and using eggs and meat is limited only to a small area of the country. However, this can be used profitably as a check and a comparative unit for the study in the Knoxville area.

## THE SURVEY

The study of these four surveys will be taken as independent groups based upon the environmental rating of the area from which they were secured. A careful and precise analysis of the data from each section and a close study of the related factors involved will be made accordingly, with the hope that this will present the practices and preferences of the consumers in the given areas. It is hoped also that this will reveal the actual situations involved with which the producer must cope in seeking a market for his product. Following the independent studies the City's market as a whole will be visualized as interpreted from the surveys of the four districts.

The value of the computations and averages presented in the analysis will be necessarily limited to the degree of accuracy which is obtained in the survey record. Figures, therefore, must not always be regarded as absolute, but rather indicative of comparisons between the groups and as averages for the specific sections.

## THE WEST KNOXVILLE SECTION

This area is representative of our well-to-do group of people. Salaried and professional workers and their families make up the larger portion of this group. These families have the appearance of fair incomes and find it possible to maintain some social position. Most of them employed one or more servants.

The information used in the study of this area was obtained during the months of October and November 1936 by personal interviews with one hundred housewives in the vicinity of West Knoxville within the boundary of Temple Avenue on the east, West Cumberland Avenue on the north, Ogden Avenue on the south, and the L. & N. Railroad on the west.

The purpose of this study was to determine if these people, representative of the well-to-do group of residents and consumers, had a preference in regard to their eggs and meats and, if so, to find out what this preference was and what practices of buying and using these products was used.

From the basis of the environment study, eighty-eight per cent of these homes were classified as excellent and only twelve as good. However, all were far above the average in representative ability to pay for the products they might desire.

TABLE I

WEST KNOXVILLE PREFERENCES AND PRACTICES
IN BUYING AND USING EGGS

| | |
|---|---|
| Number of families in survey | 100 |
| Average number in family (including servants) | 4.35 |
| Home Classification: | |
| Excellent | 88 |
| Good | 12 |
| Number dozen eggs per family weekly | 2.49 |
| Number eggs per family daily | 4.29 |
| Number eggs per person daily | 1 |
| Individual consumption per year (dozen) | 30.4 |
| Source of Eggs: | Per Cent |
| Farm delivery | 40 |
| Independent grocery | 22 |
| Chain store | 14 |
| Market wagons | 8 |
| More than one source | 16 |
| Egg Preference: | |
| Shell Color: | |
| White | 46 |
| Brown | 28 |
| No preference | 26 |
| Condition of Shell: | |
| Clean | 100 |

TABLE I (Continued)

| | | Per Cent |
|---|---|---|
| **Yolk Color:** | | |
| Light yellow | | 11 |
| Medium yellow | | 25 |
| Deep orange | | 35 |
| No preference | | 29 |
| **Condition of Egg White:** | | |
| Thick | | 44 |
| Medium | | 36 |
| Watery | | 2 |
| No preference | | 18 |
| **Egg Size:** | | |
| Large | | 73 |
| Medium | | 27 |
| Small | | 0 |
| No preference | | 0 |
| **Egg Buying:** | | |
| Number of edible eggs--average estimated | | 98 |
| Number accepting groceryman's statement as to eggs quality | | 79 |
| Number examining eggs personally | | 21 |
| Factors considered in judging egg quality: (1) Appearance, (2) Color, (3) Size, (4) Shape, (5) Cleanliness. | | |
| Number paying premium on fresh eggs | | 79 |
| Number willing to pay premium on fresh eggs | | 100 |
| **Eggs Used Daily:** | | |
| Frying | 70 | 17.3 |
| Poaching | 43 | 10.7 |
| Boiling | 42 | 10.6 |
| Scrambling | 74 | 18.3 |
| Cooking | 174 | 43.1 |
| Total | 403 | 100.0 |
| **Meals Suggested:** | | |
| Breakfast | | 86 |
| Lunch | | 6 |
| Dinner | | 12 |
| Number satisfied with present quality of eggs | | 87 |

## PREFERENCES AND PRACTICES IN BUYING AND USING EGGS

If a study is made of Table I, it will first be noticed that 1.00 eggs are consumed daily per person, or a per capita consumption of 365 eggs annually. Forty per cent of these eggs are bought directly from the farmers, and thirty-six per cent from the middlemen who sold them as "day-old" eggs. It is quite evident that this group of people desired the best eggs available regardless of price, demand, or premium on the better quality.

It is seen, furthermore, that there wasn't any great deal of enthusiasm displayed over choice of shell color of the eggs by the people in this section. However, the greater percentage preferred the white shell, while twenty-six per cent did not express any preference. The same will be noted regarding the conditions of the yolk and white. Thirty-five per cent preferred the "richer" or darker yolks in their eggs while the others had no preference.

All desired a "fresh looking" egg with a good white, although about 18 per cent expressed no preference outside of the above statement.

As would be expected in all good residential sections, they all preferred only clean eggs.

Of the one hundred families visited, 87 per cent were satisfied with their egg supply and market conditions. Seventy-nine of these depended directly upon their grocer to supply the desired quality, while the remaining twenty-one had them candled or examined them with regard to appearance, roughness of shell, shape, size and cleanliness, and in general used these factors for determining the quality they were getting.

As a result, an estimated average of 96-98 per cent of the eggs they obtained were satisfactory. Seventy-nine per cent were paying a premium on "fresh eggs" and the remaining twenty-one were more than willing to pay a premium for "fresh eggs" from a regular source. It is interesting to note also that those who were least satisfied with their supply and quality were the same ones who were, in most cases, patronizing more than one supply unit. In no cases was the consumer dissatisfied with quality or conditions of eggs where farm delivery service was used, except in a few cases where her supply was being limited because of production itself.

More eggs were used for cooking than any other purpose with scrambling, frying, poaching, boiling, omelettes, etc., coming in the order named (Fig. 2). Eighty-six per cent used eggs for breakfast, twelve per cent for dinner and six per cent for lunch. As was expected, eggs were found to be a breakfast dish. However, it was interesting to note that in many cases eggs were used in various ways not easily mentioned in charts. Puddings, on toast, omelettes, etc., all formed a major portion of the egg consumption form. This, in many cases, was alternated with the various ways of cooking and with different meals throughout the day. In every instance, however, eggs fresh, and of good quality, were necessary for a satisfied consumer.

With and after a careful study of the survey of this section it is indicated that the egg market of West Knoxville would prefer a large, white, clean egg with a thick white, rich (deep orange) yolk and qualities suitable for a good "fry-egg" or for scrambling, delivered directly, periodically to their door from the farm.

CONSUMER'S PREFERENCE OF MEAT AS SHOWN BY PERCENT CONSUMPTION IN WEST KNOXVILLE

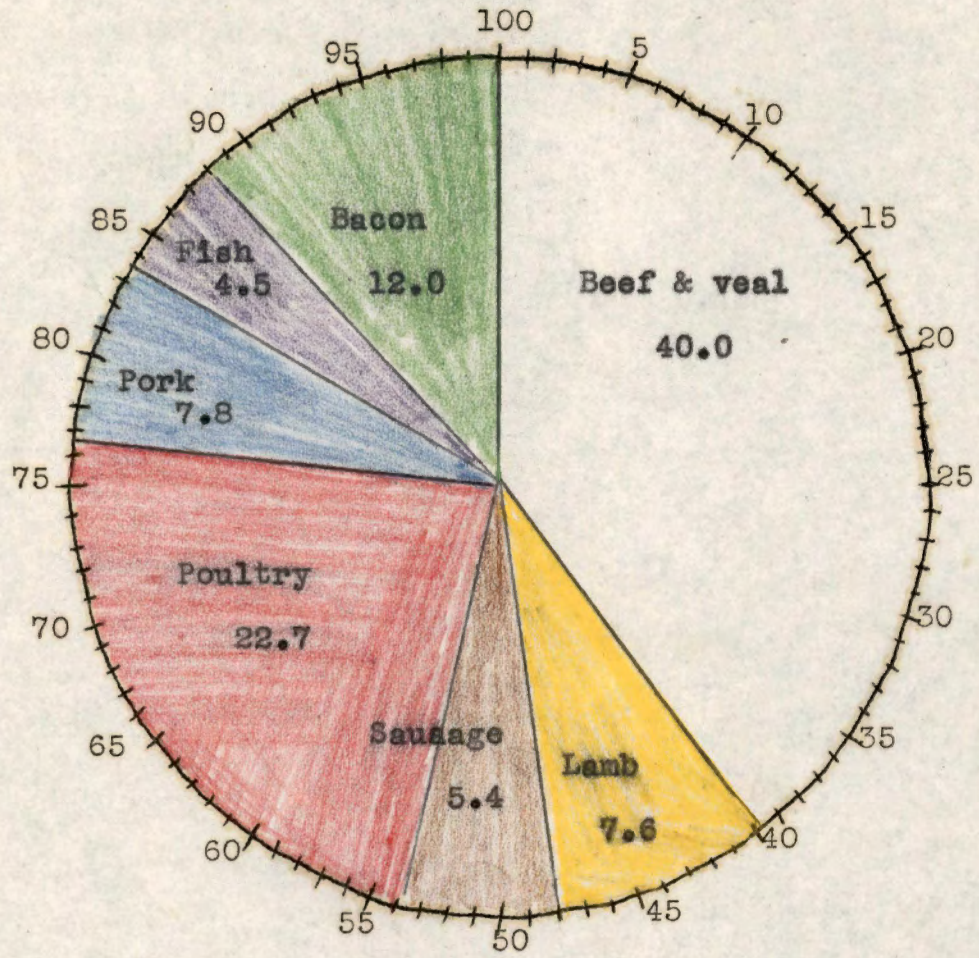



Figure 1

CONSUMER'S PREFERENCE OF EGG USAGE IN WEST KNOXVILLE

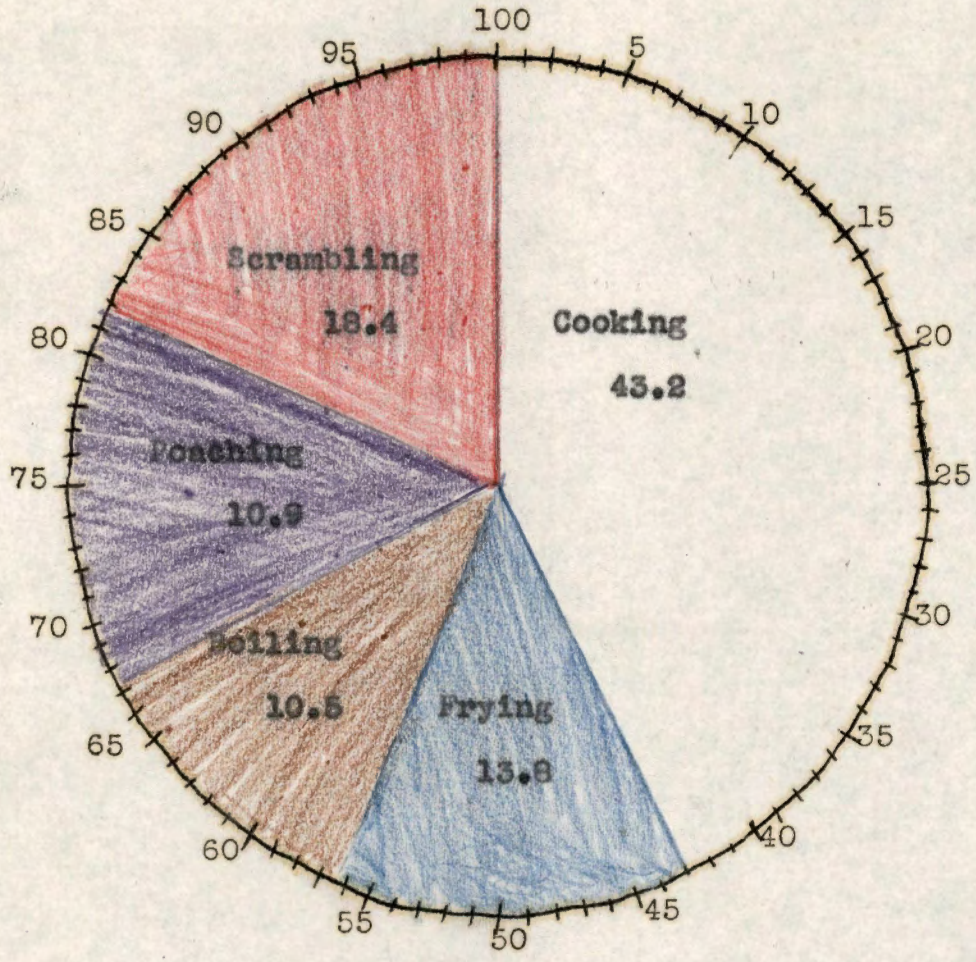



Figure 2

If the results of the 1937 survey is compared with those obtained by Mayes[1] in 1933 of the same section (p. 7), it is seen that there has been some change in the practices and preferences of these consumers. It is noted that farm delivery has decreased somewhat, fewer housewives examine their eggs and the preference has changed from medium to large eggs, more are demanding thick whites and darker yolks. It is evident, therefore, that market demands are constantly changing and the producer must be on his job at all times.

1 Mayes, op. Cit, p. 7.

TABLE II

WEST KNOXVILLE PREFERENCES AND PRACTICES IN BUYING AND USING MEAT

| | |
|---|---|
| Number of families | 100 |
| Average number in family over 4 years of age (including servants) | 4.17 |
| Meat Markets Patronized: | Per Cent |
| Number patronizing one market | 50 |
| Number patronizing two markets | 27 |
| Number patronizing two or more markets | 23 |
| Number of Times Meat Served Daily: | |
| Number serving three times daily | 4 |
| Number serving two times daily | 70 |
| Number serving once daily | 20 |
| Number serving less than once daily | 6 |
| Amount of Meat Used per Week by the 100 Families Surveyed: | Pounds |
| Bacon | 139.75 |
| Sausage | 55.75 |
| Pork | 92.00 |
| Beef and Veal | 478.75 |
| Lamb | 83.50 |
| Poultry | 255.50 |
| Fish | 51.00 |
| Total Meat: | 1156.25 |

TABLE II (Continued)

| | |
|---|---|
| Average pounds meat per family per week | 11.56 |
| Average pounds meat per person per week | 2.77 |
| Average pounds meat per person per day | .396 |
| Average pounds meat per person per year | 144.54 |
| Average pounds meat per family per year | 603.75 |

Per Capita Consumption of Meats:

| | Pounds per Person Weekly | Per cent | Pounds |
|---|---|---|---|
| Beef and Veal | 1.123 | 40 | 58.40 |
| Lamb | .210 | 7.6 | 10.95 |
| Poultry | .631 | 22.4 | 32.85 |
| Fish | .125 | 4.5 | 6.57 |
| Pork | .219 | 7.8 | 11.40 |
| Sausage | .152 | 5.4 | 7.92 |
| Bacon | .335 | 12.0 | 17.41 |
| Total Pork | .706 | | 36.73 |
| TOTAL | 2.750 | 100.0 | 144.50 |

Number Buying Meat Direct from Farmers: (per cent) 30

| Preference of Cuts: | Per cent |
|---|---|
| Number preferring lean cuts of beef | 88 |
| Number preferring fat cuts of beef | 2 |
| Number preferring mixture | 20 |
| Number preferring lean cuts of pork | 84 |
| Number preferring fat cuts of pork | 7 |
| Number preferring a mixture | 9 |

TABLE II (Continued)

Cuts Mentioned as Being Most Desirable:

(1) Pork chops, (2) T. Bone fillet steaks, (3) Ham, pork roasts, (4) Round roast, rump roast, rib roasts, (5) Veal steak, loin steaks, (6) Veal chops, (7) Leg o' lamb, lamb chops, (8) Sirloin steaks.

Cuts Mentioned as Being Found Least Satisfactory:

(1) Steaks--tough and gristle--many times too fat.

(2) Sausage--not well seasoned--too fat.

| | |
|---|---|
| Number Buying Most Expensive Cuts: | 69 |
| Number buying less expensive cuts | 26 |
| Number buying both | 5 |
| Number preferring hog lard | 19 |
| Number preferring vegetable lard | 83 |

In answer to the question, "Does your butcher take particular pains in boning or otherwise preparing your meat?"

There were 92 affirmatives and 8 negatives.

In the study of the summary of the work on meat in this same district (Table II) it is seen that fifty per cent of the consumers patronize one meat market, and that twenty-seven per cent patronize one or two, while only 23 per cent of them do not have a regular butcher. This great percentage having regular butchers is possibly accountable for and correlates with the statement where it is found that "92 per cent of the consumers are satisfied with their present butcher who takes special pains to prepare their meats for them."

In addition, it is interesting to note that only four per cent of these consumers serve meat three times daily, but seventy per cent served it twice daily, twenty per cent served it once daily or more, while only six per cent served it less than once per day. In a lot of cases, however, the reason for not serving meat more times daily was due to the necessity of taking one meal "out" almost every day, thus bringing the "average" down considerably. This same reason also limited somewhat these same consumers' meat supply which amounted to 11.56 pounds per week for a family of 4.17 persons or about 0.396 pounds of meat per person per day (Fig. 1). Of this amount about 40 per cent was beef and veal, 22.7 per cent poultry, 12 per cent bacon, 7.8 per cent pork, 7.6 per cent lamb and mutton, 5.4 per cent fish, with a per capita consumption of about 144.5 pounds per year, which is a "good" average as compared with that of the United States of about 135 pounds.

It will be noted also that very few bought their meats directly from the farmer, but patronized their local butcher. However, in the case of poultry and sausage, about 30 per cent bought directly from the farmer and many others would have had they the opportunity to get "good

seasoned pork sausage." In most cases those who patronized a "farm delivery egg market" had this same man bring their chickens and, when possible, their sausage. There was some complaint about the grade of meats on Knoxville markets. Many of the people preferred a "higher quality" meat and several higher priced cuts which were hard to get on this market. They expressed their willingness to pay a premium on the best possible grade of meats, "if it was possible to get them." It was interesting to note that 69 per cent of these people bought the highest priced cuts available and only 26 per cent preferred the less expensive which were, in most instances, a mixture of the most and less expensive cuts. However, only 5 per cent openly expressed preference for both grades of cuts.

In mentioning the cuts they found more desirable in all instances the higher priced cuts were mentioned first with fillet, T-bone, loin steaks, leg o' lamb, veal chops, lamb chops, rib roast, etc., all being mentioned as satisfactory, however, many preferred a "better quality steak" which they complained were often tough and sometimes contained gristle. The sausage was in all instances, except in cases where obtained directly from farmers, pronounced as "too fat," "strong," or "poorly seasoned."

In 88 per cent of the cases the families liked lean cuts of beef and in twenty-three per cent of the cases they preferred a good marbled cut plus some fat, with only two per cent preferring fat cuts of beef. However, in the cases of pork, the desire for "seasoning meat" brought their average down to eighty-four per cent desiring lean cuts and 7 per cent wanting all fat cuts, with nine per cent preferring a mixture of the two in their pork supply.

It was both interesting and surprising to observe that only 19 per cent of these people preferred hog lard and eighty-three per cent desired the vegetable compound. In most instances this difference in preference was due to the fact that "the vegetable compound was not only lower in price, but made a lighter pie crust, a better biscuit, and did not change viscosity with every change in temperature as did hog lard." However, those who used the pure lard were strong supporters for it and openly defended their arguments.

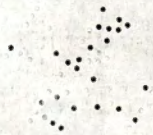
If the marketing procedure is followed, it will be concluded that a butcher buys a meat animal for the amount of lean meat he is able to cut from it, and especially for the amount of lean in the high priced cuts. He wants just as little waste as possible. It is his business to cater to the desires of the consumers and whatever the consumer prefers must serve in the purchase of his meat animals.

The consumer dictates to the butcher, the butcher to the feeder and the feeder to the breeder. In other words "the consumer is the supreme judge" as to what constitutes "good" meat and all others must bow to his judgments. There is no question but that the consumers of this section are demanding more lean and less fat; as indicated, they desire enough fat distributed among the leaner cuts to make it tender and well-flavored, but the heavy layers of fat are now relegated to the tallow box and not served. Ninety per cent of our marketing problem consists in producing the quality which "the consumer" prefers. Therefore, for the supplying of this section with the desired quality of meat and meat products, it behooves both the breeder and the feeder

to produce meat animals that will furnish the largest amount of well marbled meat in the highest priced cuts with the least amount of excess fat.

In but very few cases did it seem that eggs served as a meat substitute, but on the contrary they seemed to support one another.

The people of this section, as would be expected of a class of people of their financial rating, all preferred the best of eggs and the choicest cuts of meat. Price seemed only a meager factor when it came to satisfying desires for food. This area, as a whole, then would furnish a splendid market for our highest quality products.



## THE SEQUOYAH HILLS SECTION

This section gives us a study of those families with considerable wealth, therefore, in normal times a high purchasing power or ability to pay. It is representative of those with incomes sufficiently large to live in the most exclusive section of our city and to employ servants.

The information used as a basis for this study was secured through personal interviews with one hundred housewives during the months of April, May and June 1937 in the vicinity of West Knoxville within the Sequoyah Hills area south of the Kingston Pike. In this area it was often necessary to interview the cook who had, in most cases, been in the family for several years, rather than the housewife directly, but this was not to a disadvantage.

The object of this study was to determine the preferences and practices of this group, the wealthier residents of the city, in regard to their egg and meat buying and uses. A study of a group where it was not necessary to vary preference and practices with price changes.

When classified according to their profession there was found to be twenty-five per cent of them that were heads or presidents of their business, twelve per cent were medical doctors, twelve per cent dealers or salesmen, nine per cent were engineers, nine per cent lawyers, five per cent were college professors, four per cent were contractors, five per cent were real estate men, two per cent brokers, two per cent bankers, two per cent high school teachers, two per cent were newspaper editors, two per cent were retired manufacturers and one per cent were architects. Now, this places these people in the group of our highest

type wage earners and in a position to satisfy their preferences in regard to our products regardless of the scarcity of the price or demand for the product.

This average number in family of 4.71 was somewhat high for this group due to the necessity of including servants eating two or more meals daily in this average, but it was necessary in order to get a representative average for the area.

TABLE III

SEQUOYAH HILLS
PREFERENCES AND PRACTICES IN USING EGGS

| | |
|---|---|
| Number of families in survey | 100 |
| Classification of Homes: | |
| Excellent | 96 |
| Good | 4 |
| Average number in family | 4.71 |
| Number dozen eggs per family weekly | 3.03 |
| Number eggs used per family daily | 5.27 |
| Number eggs used per person daily | 1.11 |
| Individual consumption per year | 401.44 |
| Source of Eggs: | Per cent |
| Farm delivery | 46 |
| Independent grocery | 26 |
| Market wagons | 10 |
| More than one source | 12 |
| Chain store | 6 |
| Egg Preference: | |
| Shell Color: | |
| Brown | 29 |
| White | 29 |
| No preference | 42 |
| Condition of Shell: | |
| Clean | 100 |
| Yolk Color: | |
| Deep orange | 51 |
| Light yellow | 14 |
| Medium yellow | 16 |
| No preference | 19 |
| Condition of Eggwhite: | |
| Thick | 52 |
| Medium | 30 |
| Watery | 0 |
| No preference | 18 |

TABLE III (Continued)

| | | |
|---|---|---|
| **Egg Size:** | | |
| Large | | 55 |
| Medium | | 29 |
| Small | | 2 |
| No preference | | 14 |
| **Egg Buying:** | | |
| Number receiving all edible eggs | | 68 |
| Number receiving occasional bad eggs | | 32 |
| Number examining eggs before buying | | 2 |
| **Eggs Used Daily:** | Number | Per cent |
| Cooking | 1458 | 39.86 |
| Scrambling | 681 | 18.63 |
| Frying | 587 | 16.05 |
| Poaching | 535 | 14.66 |
| Boiling | 395 | 10.88 |
| Total | 3656 | 100.00 |
| **Meals Eggs Used Most:** | | |
| Breakfast | | 84 |
| Dinner | | 11 |
| Lunch | | 5 |
| Number satisfied with present quality of eggs | | 96 |
| Number paying premiums on eggs | | 47 |

## PREFERENCES AND PRACTICES IN BUYING AND USING EGGS

In the analysis of the survey of this area (Table III), information regarding the actual preferences and practices of these residents was obtained. These one hundred families used an average of 303 dozen eggs weekly or 3.03 dozen per family per week, averaging 7.72 eggs per person per week or 5.27 eggs per family daily. This was a total of 1.11 eggs per person per day or an average per capita consumption of 33.45 dozen eggs, being equaled only by the Park City section of the city.

These consumers were willing to pay a premium on good, fresh eggs and 47 per cent of them did so. The local farmers were taking advantage of this desire and 46 per cent of the homes were furnished with farm delivered eggs. This may partially account for the fact that only two per cent examine the eggs themselves, other than accept the groceryman's statement as to the freshness of the eggs. It, too, may account for the fact that sixty-eight per cent never received any unedible eggs while thirty-two per cent received them only occasionally. Twenty-six per cent patronized the independent grocer and ten per cent the market wagons. Only six per cent secured eggs from the chain stores and twelve per cent alternated their source of supply.

In regard to shell color, forty-two per cent had no preference, twenty-nine preferred the white and twenty-nine the brown-shelled eggs. Therefore, it is seen that seventy-one per cent of the consumers could be satisfied with either the brown or the white egg. However, in regard to yolk color, fifty-one per cent preferred the dark orange, while sixteen preferred the medium dark, fourteen the light yolk and nineteen per cent had no preference. Consequently, seventy per cent could be

satisfied with a dark orange yolk.

Fifty-two per cent preferred a thick egg white and thirty a medium thick white, while eighteen had no preference or had never noticed the difference.

Fifty-five expressed a desire for large eggs, twenty-nine per cent preferred the medium-sized ones, two preferred the small and fourteen per cent had no preference so long as they were "Nice, clean, fresh eggs."

Again, eggs were found to be primarily a breakfast dish with eighty-four per cent of the homes using them as such. Eleven percent used them principally at dinner while only five used them as a luncheon food. However, 39.9 percent of these 3,656 eggs were used in the cooking and thus distributed their usage more evenly than the survey might indicate (Figure 3). In the daily uses of these eggs 18.6 percent were prepared by scrambling, sixteen percent by frying, fourteen and one-half percent by poaching and eleven percent by boiling. Besides these ways, many served omelettes, baked and devilled eggs and many other ways that would be difficult to classify in this study. These preparations, for satisfaction, would require the best grade of eggs and although only 47 percent of them are paying a premium for these "quality eggs" 96 percent are satisfied with their present supply.

In conclusion, then for this group, we could say that they preferred only the best quality of large, clean, fresh eggs, regardless of shell color, with a deep orange yolk and a thick egg white; an egg that was desirable for any preparation and an egg suitable for a "top" breakfast food that only a regular farm delivery or a considerate grocer could supply.

CONSUMER'S PREFERENCE IN EGG USAGE FOR THE SEQUOYAH HILL SECTION

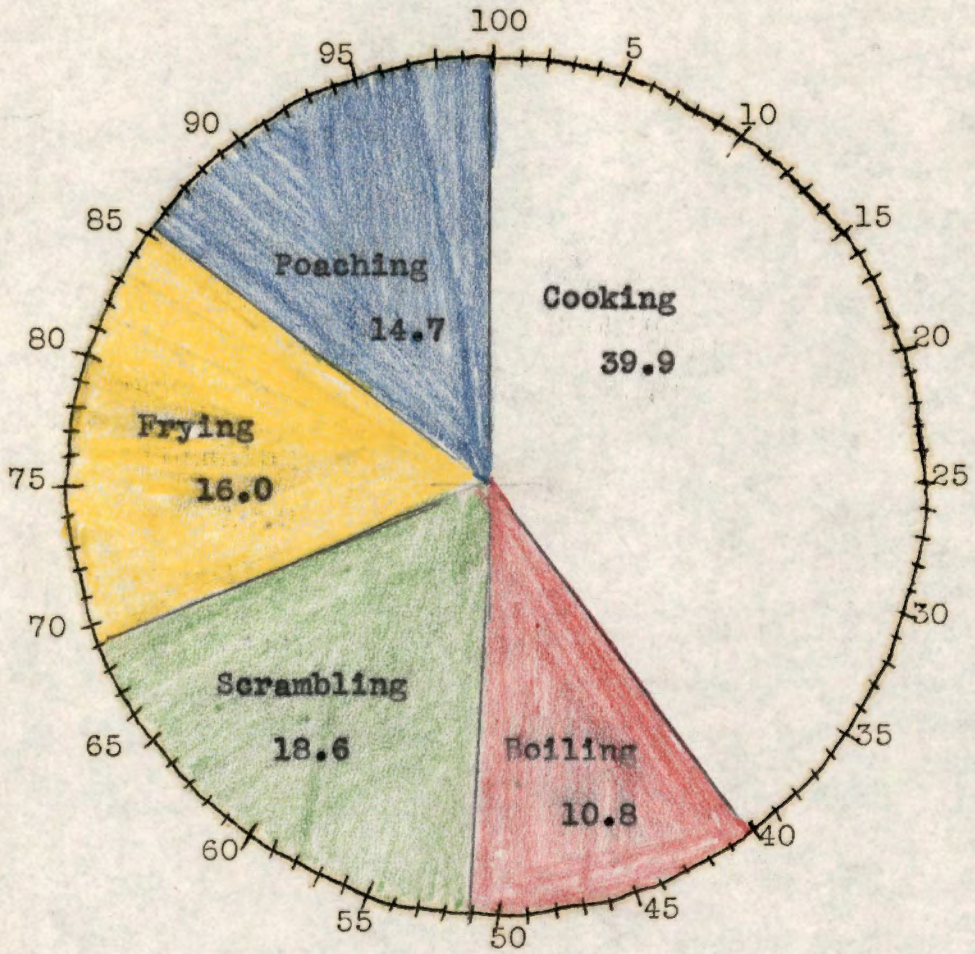



Figure 3

CONSUMER'S PREFERENCE FOR MEAT IN THE SEQUOYAH HILL SECTION

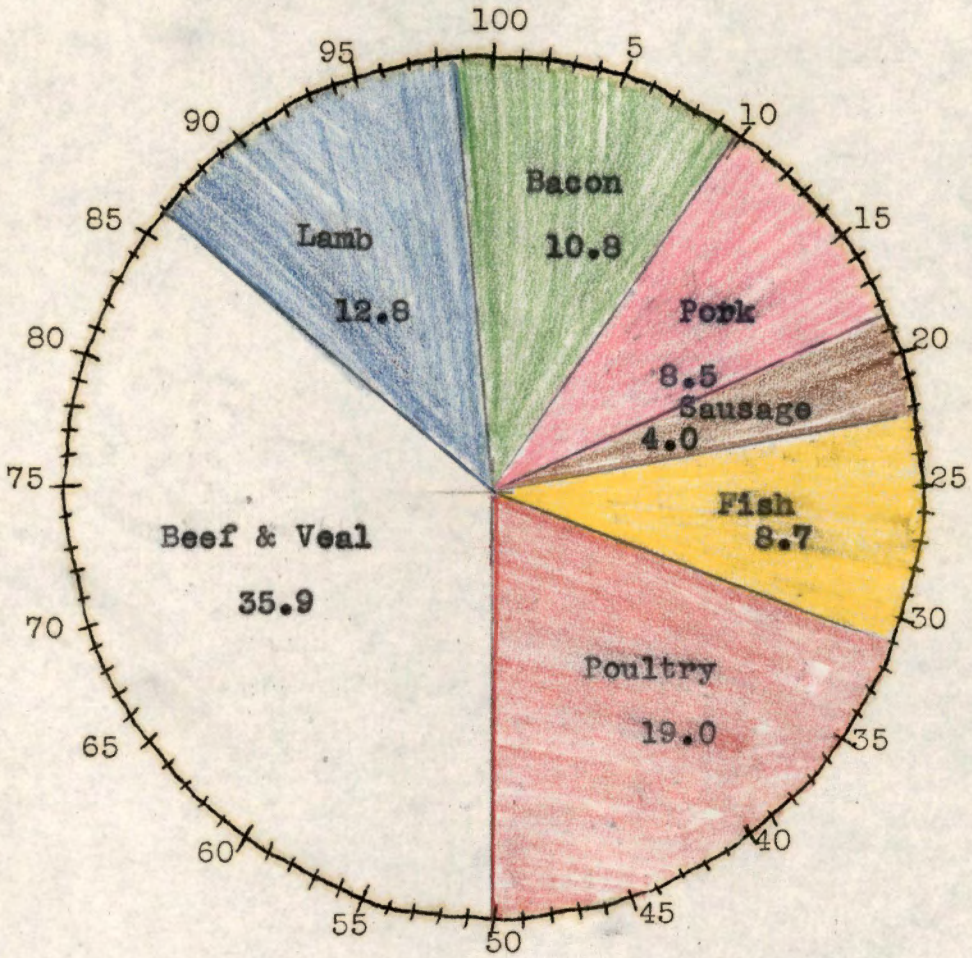



Figure 4

TABLE IV

SEQUOYAH HILLS PREFERENCES AND PRACTICES
IN BUYING AND USING MEAT

| | |
|---|---|
| Number of Families | 100 |
| Average number in family over 4 years | 4.58 |
| Meat Markets Patronized: | |
| Number patronizing one market | 50 |
| Number patronizing one-two markets | 41 |
| Number patronizing two or more markets | 9 |
| Number Times Meat Served Daily: | |
| Number serving three times daily | 4 |
| Number serving twice daily | 61 |
| Number serving 1-twice daily | 30 |
| Number serving less than once daily | 5 |

| Amount of Meat Used per Week: | Pounds |
|---|---|
| Bacon | 157.00 |
| Sausage | 56.00 |
| Pork | 119.25 |
| Total Pork | 332.25 |
| Beef and Veal | 517.25 |
| Lamb | 171.00 |
| Poultry | 267.50 |
| Fish | 123.00 |
| Total Meat Used Weekly: | 1411.00 |

| | |
|---|---|
| Average meat used per family per week | 14.11 |
| Average meat used per person per week | 3.087 |
| Average meat used per person per day | .441 |
| Average meat used per family per year | 733.72 |
| Average per capita consumption per area | 160.52 |

Per Capita Consumption of Meats:

| | Lbs. per person weekly | Percent | Total Per Year |
|---|---|---|---|
| Beef and Veal | 1.129 | 35.88 | 58.708 |
| Lamb | .373 | 12.88 | 19.396 |
| Poultry | .584 | 18.98 | 30.368 |
| Fish | .268 | 8.68 | 13.936 |
| Pork | .260 | 8.45 | 13.541 |
| Sausage | .122 | 4.05 | 6.344 |
| Bacon | .336 | 10.88 | 17.472 |
| Total Pork | .719 | 23.30 | 37.357 |

TABLE IV (Continued)

| | |
|---|---|
| Number buying meats directly from farmers | 30 |
| **Preference of Cuts:** | |
| Percent preferring lean cuts of beef | 88 |
| Percent preferring fat cuts of beef | 3 |
| Percent preferring mixed cuts of beef | 9 |
| Percent preferring fat cuts of pork | 5 |
| Percent preferring lean cuts of pork | 85 |
| Percent preferring mixed cuts of pork | 10 |

**Cuts Mentioned as Being Found Most Satisfactory:**

(1) Pork, veal, rib and lamb roast.
(2) Pork, veal and lamb chops.
(3) Sirloin, veal, T-bone, cube and fillet steaks.
(4) Prepared meats and ham.
(5) Leg o' lamb, lamb shoulders and calf liver.

**Cuts Mentioned as Being Found Least Satisfactory:**

(1) Beef roasts - tough and too fat.
(2) Steaks - often tough and poorly cut out or containing gristles.
(3) Lamb - found too fat often or dry.

| | |
|---|---|
| **Number Buying Cuts:** | |
| Most expensive | 83 |
| Least Expensive | 11 |
| Both | 6 |
| Number preferring hog lard | 15 |
| Number preferring vegetable compound | 85 |
| Number whose butcher took pains with meat | 89 |

## PREFERENCES AND PRACTICES IN BUYING AND USING MEAT

In the analysis of the data on meats for this section (Table IV) it is seen that it compares favorably with the city's average in preferences, but is above this average in practices and uses of the meat supply. One-half of these hundred homes patronized only one meat market, forty-one patronized one-two markets and only nine selected meat from random markets.

These 458 people over 4 years of age used on an average 1411 pounds of meat weekly or 205 pounds daily, served sixty-one percent of the times twice daily in the homes. Only four percent served meat three times daily and thirty percent once to twice daily, with only five percent serving meat less than once daily.

The choicest cuts of beef and veal seemed to be the preferred meat for this section as in the West Knoxville area, totaling thirty-six percent of the total meat supply or 58.7 pounds per capita. The total pork consumed ranked next with a per capita consumption of 37.4 pounds (Figure 4). Poultry came next with 30.4 pounds being followed by lamb with 19.4 pounds and fish with 13.9 pounds per capita. This poultry compares favorably with West Knoxville, but the lamb and fish consumption is superior to any other section. This brings this area far above the average of 143.5 pounds for the city's per capita consumption to 160.5 pounds, making the average daily consumption of the individual .441 pounds or an average of 733.7 pounds of meat per year per family.

Thirty percent of these consumers purchased some of their meats

directly from the farmers. This included sausage (fresh pork) and chickens only, however, and did not represent, at that, their entire consumption of these products. Eighty-eight percent preferred their beef lean and eighty-five percent desired lean pork. Only three preferred fat beef cuts, while ten percent preferred fat pork cuts, the remaining families preferring mixed cuts. Furthermore, all preferred their meats not too fat, or too lean, but well marbled, tender cuts of edible meats. Nevertheless, like the remaining sections, there were complaints about the steaks, beef roasts and a few regarding lambs being unsatisfactory a part of the time. Sometimes it was too fat, too tough, or poorly cut. Although eighty-three percent bought the most expensive cuts available, only eighty-nine percent of the butchers took any special pains in preparing the meat. Eleven percent bought the less expensive cuts and six percent varied the selection to suit the occasion, using both expensive and less expensive cuts.

It seems, therefore, that although money is not the limiting factor here, satisfaction of preference is not fully guaranteed.

Eighty-five of these homes preferred vegetable compound instead of hog lard. Like the West Knoxville district, they seemed to think it insured "lighter" cooking and "kept" better during warm weather.

It is evident, therefore, that we have here a section whose practices are guided directly by preference. Consequently, we have the maximum consumption of the best eggs, the best meats and the utilization of the best practices for satisfaction of the consumer. Fresh eggs and good fresh, tender meat of maximum quality is the desire of these people.

## THE PARK CITY SECTION

The people of this section are representative of our middle class groups. These families live in modest homes in the less wealthy residential section of the city. The families were, as a rule, large, and consequently few servants were employed. The homes surveyed were typical for the district and may be calssed as representative of a group of this kind in any corresponding district.

The data used in this study was secured during the months of February, March and April 1937 through personal interviews with one hundred housewives in the vicinity of North Knoxville, and within the boundary of the 1600-2200 blocks of Washington, Jefferson and Woodbine Avenues inclusive.

The object of the study of this district was to ascertain the preferences and practices of this group of residents in regard to their egg and meat purchases and uses.

From the basis of the environmental study of these one hundred homes, seventeen percent were classified as excellent, sixty-nine percent as good, ten percent as fair and four percent as poor. Thus it is seen that this may well portray the average living conditions of this group of people. Some are thrifty and live in very nice homes, others are less fortunate and are poor, but the greater percentage are in average or good homes.

The living conditions may well be accounted for if we knew the occupations of these people that we may group them according to their

possible income. This having been done, it was found that twenty percent of them were textile workers, ten percent of which were departmental foremen; seventeen percent were on public works, ten percent were salesmen, nine percent worked for the Tennessee Public Service Company, nine percent worked for the railroad, eight percent were merchants, eight percent were mechanics, seven percent were policemen, six percent were carpenters, and two percent were in the real estate business. This shows them to be in a more or less limited income group and among the non-professional laborers where their preferences and practices might be somewhat limited because of their earning capacity.

The average number in family for this district was the smallest of the four groups studied. This was due on the most part to the fact that they did not employ servants and consequently these were not counted in the average.

TABLE V

PARK CITY PREFERENCES AND PRACTICES
IN BUYING AND USING EGGS

| | |
|---|---|
| Number of Families | 100 |
| Home Classification: | Percent |
| Excellent | 17 |
| Good | 69 |
| Fair | 10 |
| Poor | 4 |
| Average number in family | 4.10 |
| Number dozen eggs per family weekly | 2.64 |
| Number eggs used per family daily | 4.52 |
| Number eggs used per person daily | 1.11 |
| Per Capita Consumption (dozens) | 33.50 |
| Source of Eggs: | Percent |
| Farm delivery | 60 |
| Independent grocery | 23 |
| Chain stores | 7 |
| Market wagons | 3 |
| More than one source | 7 |
| Egg Preference: | |
| Shell Color: | |
| Brown | 39 |
| White | 23 |
| No preference | 38 |
| Condition of Shell: | |
| Clean | 95 |
| No preference | 5 |
| Yolk Color: | |
| Deep orange | 57 |
| Light yellow | 12 |
| Medium yellow | 15 |
| No preference | 16 |
| Condition of Egg White: | |
| Thick | 56 |
| Medium | 27 |
| Watery | 0 |
| No preference | 17 |

## PREFERENCES AND PRACTICES IN BUYING AND USING EGGS

A study of the surveys of this group reveals some interesting and worthwhile information regarding the egg demand for this district. The one hundred families used 264 dozen eggs weekly or an average of 2.64 dozen per family per week or 7.72 eggs per person per week. If this is further analyzed it is found that the area consumes on the average of 1.11 eggs per person per day or a per capita consumption of 33.5 dozen. This is somewhat above that for any of the other sections and is far above the average of 17.5 dozen per capita for the United States, indicating a good marketing section for good fresh eggs.

The local farmers have realized this and are now delivering sixty percent of their eggs. Independent grocers furnish twenty-three percent of them, seven percent patronized the chain stores, three the market wagons and seven percent alternated among the several sources. This high percentage farm delivery, no doubt, accounts for the high percentage satisfied with their present egg supply.

These consumers had a preference for brown-shelled eggs. Although seventy-seven percent could be satisfied with brown-shelled eggs, only 39% distinctly desired them while 38% had no preference and 23 percent preferred the white-shelled eggs.

As was true in the other districts, this group seemed to prefer the "richer" deep orange yolk and the thick white from a large, clean egg. Fifteen percent expressed a preference for medium yellow yolks and twenty-seven percent for a medium thick white, none desired a watery

white or a small egg, and seventeen percent had no preference as to the yolk color or condition of the egg white. Seventy-three percent of the housewives could be satisfied with a large, deep orange egg with a thick white, but nineteen percent desired to first examine their eggs personally before they bought them to make sure of their cleanliness, size, color and appearance. This may partly be the reason for the high number of ninety-three percent remarking that they received no bad eggs from their dealer.

In this section, as in all others studied, the egg was found to be primarily a breakfast food. Eighty-nine percent used it as such, while nine used it principally at noon, and only two used it as a dinner food. Thirty-eight percent of these 3,168 eggs were used in the (Figure 5) cooking, however, and in this way some were used at about every meal. Twenty-seven percent of them were prepared for serving by frying, and seventeen percent by scrambling. Only seven percent were poached and twelve percent were boiled. These people fried more eggs than those of any other section and were surpassed only by the wealthier section, Sequoyah Hills, in uses in cooking, but in poaching, omelettes and baking they were nearer the bottom of the list.

This compares closely to the survey made by Mayes in 1933[1] in egg usage and preference. The per capita consumption was somewhat greater for this less wealthy section, however, and somewhat higher than that for Rhode Island[2] and New York[3] survey. Nevertheless this area demands a large, clean, brown shell, thick white, dark yolk egg, suited for frying and cooking and available at a medium price per dozen.

1. Mayes, Op. cit. p. 7.
2. Corbett, Op. cit. p. 12.
3. Thomson, Winton, Op. cit. p. 13

CONSUMER'S PREFERENCE FOR EGG USAGE IN THE PARK CITY SECTION

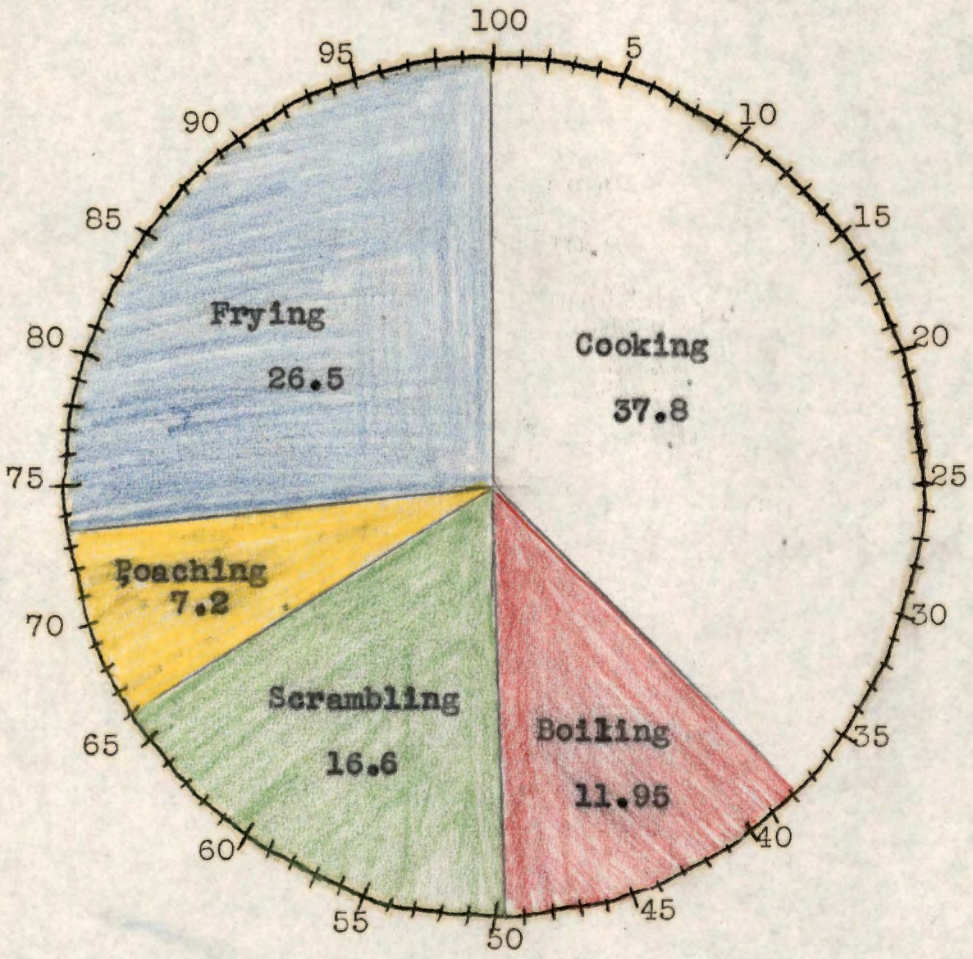



Figure 5

CONSUMER'S PREFERENCE FOR MEAT IN THE PARK CITY SECTION

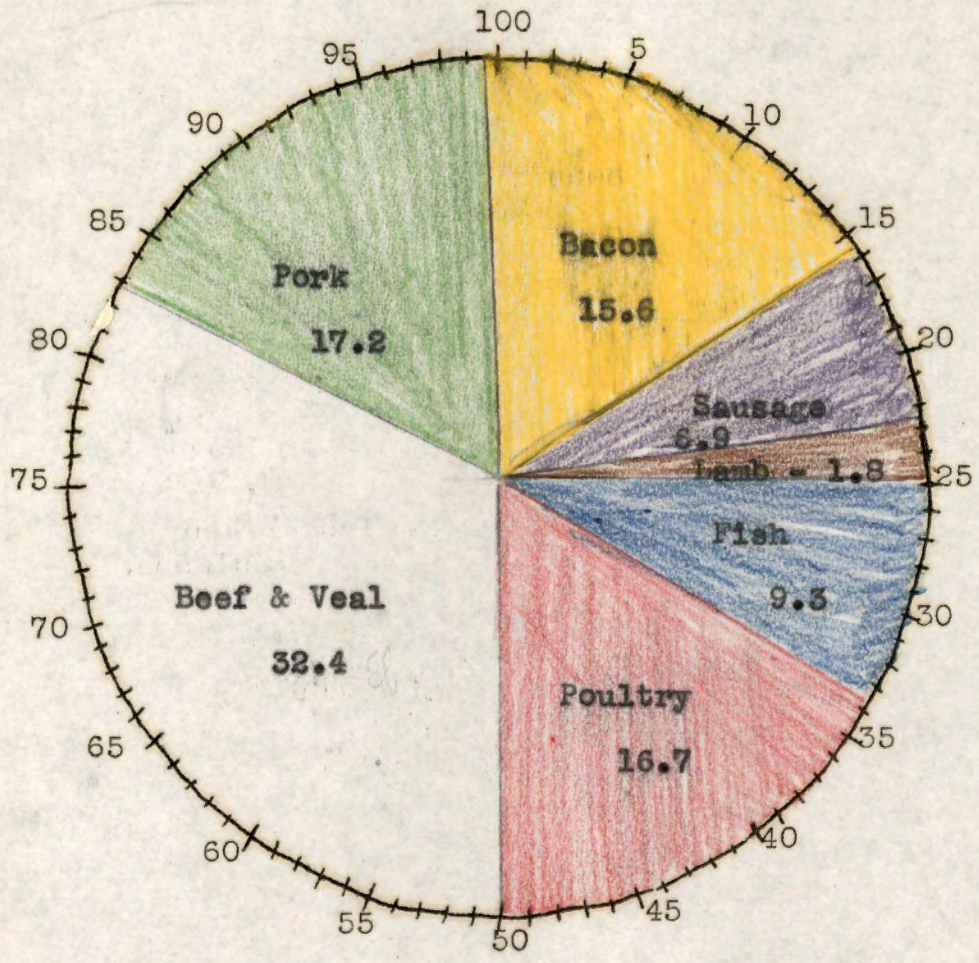



Figure 6

TABLE VI

PARK CITY PREFERENCES AND PRACTICES
IN BUYING AND USING MEAT

| | |
|---|---|
| Number of Families | 100 |
| Average number in family over 4 years | 3.82 |
| Meat Markets Patronized: | |
| Number patronizing one market | 50 |
| Number patronizing one-two markets | 23 |
| Number patronizing two or more markets | 27 |
| Number Times Meat Served Daily: | |
| Number serving three times daily | 4 |
| Number serving one-two times daily | 35 |
| Number serving once daily | 45 |
| Number serving less than once daily | 16 |

| Amount of Meat Used per Week: | Pounds |
|---|---|
| Bacon | 155.00 |
| Sausage | 69.75 |
| Pork | 173.25 |
| Total Pork | 398.00 |
| Beef and Veal | 326.00 |
| Lamb | 17.75 |
| Poultry | 168.50 |
| Fish | 93.75 |
| Total meat used weekly: | 1011.00 |

| | |
|---|---|
| Average meat used per family per week | 10.11 |
| Average meat used per person per week | 2.64 |
| Average meat used per person per day | .379 |
| Average meat used per family per year | 525.70 |
| Average per capita consumption for area | 137.488 |

Per Capita Consumption of Meats:

| | Lbs. per person weekly | Percent | Total Per Year |
|---|---|---|---|
| Beef and veal | .853 | 32.40 | 44.356 |
| Lamb | .046 | 1.83 | 2.382 |
| Poultry | .441 | 16.69 | 22.932 |
| Fish | .245 | 9.36 | 12.740 |
| Pork | .453 | 17.23 | 23.556 |
| Sausage | .182 | 6.88 | 9.464 |
| Bacon | .405 | 15.61 | 21.060 |
| Total Pork | 1.040 | 39.72 | 54.080 |

TABLE VI (Continued)

Number buying meats direct from farmers 23

Preference of Cuts:

| | |
|---|---|
| Number preferring lean cuts of beef | 89 |
| Number preferring fat cuts of beef | 2 |
| Number preferring mixed cuts of beef | 9 |
| Number preferring lean cuts of pork | 85 |
| Number preferring fat cuts of pork | 4 |
| Number preferring mixed cuts of pork | 11 |

Cuts Mentioned as Being Found Most Satisfactory

(1) T-bone, loin and fillet steaks.
(2) Ham.
(3) Pork, veal and lamb roasts.
(4) Veal chops.
(5) Pork chops.
(6) Leg o'lamb, lamb chops.
(7) Sirloin steaks.
(8) Rib roasts.
(9) Prepared meats.
(10) Stews.
(11) Rump roasts.
(12) Chuck.

Cuts Mentioned as Being Found Least Satisfactory:

(1) Steaks - tough - many times tough.
(2) Roasts - tough - fat.
(3) Stews - tough - gristles.

Number buying most expensive cuts 59

Number buying least expensive cuts 32

Number buying both 9

Number preferring hog lard 13

Number preferring vegetable compound 87

Number whose butcher took pains to prepare meats as desired 64

## PREFERENCES AND PRACTICES IN BUYING AND USING MEAT

These preferences and practices in this section (Table VI) compare favorably with the other sections studied. One-half of the housewives patronize only one meat market and forty-five percent of them serve meat but once a day. However, twenty-three percent patronize one-two markets and thirty-five percent serve meat once-twice daily. Only twenty-seven percent have a variety of meat three times daily, but sixteen percent have little use for meat, serving it less than once daily. The noon meal was usually a vegetable lunch and many even omitted breakfast bacon from the menu, thus reducing somewhat their meat consumption to slightly more than one-half ton per week for these one hundred families or 10.11 pounds per family of 3.82 persons per week. This amounted to about 2.64 pounds per person per week or .379 pounds daily per person, or a per capita consumption of 137.5 pounds for this area.

Pork seemed to be the preferred meat for this area (Figure 6) as in the Textile Mill Section with a per capita consumption of 54.08 pounds, 10 pounds above that for beef and veal. Pork roasts, chops and bacon were the chief cuts used in this meat, with poultry consumption following closely at 22.9 pounds per capita. Very little mutton or lamb was used, only 2.4 pounds per capita, and little fresh fish was consumed, but the use of salmons brought the per capita consumption up to 12.74 pounds annually.

Twenty-three percent of these housewives bought some of their meat directly from the farmers. This consisted of chickens, sausage, and some cured pork. However, the majority depended upon their butcher to

supply their table with fresh meat.

In answer to the question in regard to preferences to fat or lean cuts they all preferred a "well marbled" meat but eighty-nine percent preferred lean cuts of beef, and eighty-five lean cuts of pork over the fat cuts. However, nine percent desired the mixed cuts of beef and eleven the mixed cuts of pork over either the fat or lean.

The trend for choice of cuts in this section was toward quality in the lower priced cuts. Fifty-nine percent preferred the best cuts of meat available while nine bought according to the demands of the occasion and thirty-two percent preferred the less expensive cuts. These consisted in range all the way from fillet and loin steaks to chuck roasts and including many of the best lamb, veal and pork cuts as well as the hamburger, salmon and stew.

There was some dissatisfaction expressed as to the quality of the steaks, roasts and stews bought. It seems that even though sixty-four percent of the butchers took special pains to prepare meat to please Mrs. Housewife, it was a hard proposition to supply her with good, tender meat, steaks especially. These cuts were always mentioned among the first as those found to be tough, gristly or too fat. This obtains among those buying the expensive the same as those buying the less expensive cuts.

Eighty-seven percent of these housewives preferred vegetable oil compound and thirteen percent preferred the hog lard in their household uses.

It seems evident, therefore, that the people of this area are not consuming the maximum meat supply that they could, especially the beef, and veal and lamb cuts. This may be substituted somewhat by their larger egg consumption but this is not likely. These people prefer choice eggs and good quality meat at a fair price. It is evident that consumption is influenced to a certain degree by price, but so long as the producer and butcher can supply these consumers with the desired products, consumption, especially in the meat products, is destined to increase materially.

## THE TEXTILE MILL AREA

Only the "average" homes for this section were interviewed with the hope of obtaining some good data to use as that typical for a section of this nature in any city, and at the same time to get information subject for comparison with the wealthier sections of the city studied.

The information used in the study of this area was secured by personal visits to one hundred housewives during the months of December and January 1936-37 in the vicinity of West Knoxville within the boundary of Western Avenue on the north, Euclid Avenue on the west, Fort Sanders Street on the south, the L. & N. Railroad on the east and including the 1700-2200 blocks of Forest and Grand Avenues.

The purpose of this study was to determine if these people representing the lower income group of our city had a preference in regard to their egg and meat products, and to secure information leading to the analysis of these preferences in the buying and using of meat and eggs for their households.

From these one hundred homes an environmental and individual study showed that only seven of the families could be classified as good, thirty as fair, forty-five as poor. All of these people were not mill workers but most of them had been in the past and were still near or below that income group. The very best and the most humble homes were not necessarily studied, but only those representative of the section.

One of the biggest problems in obtaining this data was to get into the home and get the person's confidence. Often it was necessary to

keep the survey from view altogether. Many of them were superstitious and refused to talk until they were confident that "no harm" would befall them. The approach was most always made, and necessarily made, from their own personal interests and not as a survey itself; thus calling for a greater amount of time than was essential in some of the previous surveys.

All these homes surveyed were among the lowest class of wage earners, and when classed according to occupation it was found that there were twenty-nine textile workers, fifteen W.P.A. workers, seven on direct relief, eight carpenters, four truck-drivers, three bootleggers, two painters, three who worked at the laundry, two bakers, two deputy sheriffs, two auto mechanics, two firemen (part time), one retired school teacher, four railroad laborers, and nineteen others ranking about the common laborer's income level.

The data thus obtained will not truthfully represent the average for the year, but only for the winter season when most of the eggs and meat were being used. The families were usually large, averaging 5.26 persons, and supplying them with the necessary food from the wages earned was indeed a problem worthy of consideration and resulted usually in the necessity of buying the more cheaper foods.

TABLE VII

THE TEXTILE MILL AREA PREFERENCE AND PRACTICE IN BUYING AND USING EGGS

| | |
|---|---|
| Number of families | 100 |
| Home Classification: | |
| Good | 7 |
| Fair | 30 |
| Poor | 45 |
| Very Poor | 18 |
| Average number in family | 5.26 |
| Number dozen eggs per family weekly | 1.950 |
| Number eggs used per family daily | 3.34 |
| Number eggs used per person daily | .64 |
| Per capita consumption (dozen) | 14.00 |
| Source of Eggs: | Percent |
| Independent grocery | 57 |
| Chain store | 23 |
| Farm delivery | 8 |
| More than one source | 10 |
| Market wagons | 2 |
| Egg preference: | |
| Shell Color: | |
| No preference | 48 |
| Brown | 37 |
| White | 15 |
| Condition of Shell: | |
| Clean | 86 |
| No preference | 14 |
| Yolk Color: | |
| Deep orange | 60 |
| No preference | 24 |
| Light yellow | 9 |
| Medium yellow | 7 |
| Condition of Egg White: | |
| Thick | 74 |
| Medium | 17 |
| No preference | 6 |
| Watery | 3 |

TABLE VII (Continued)

| | |
|---|---|
| **Egg Size:** | |
| Large | 60 |
| Medium | 28 |
| Small | 1 |
| No preference | 11 |

| **Egg Buying:** | Percent |
|---|---|
| Number edible eggs (est. ave.) | 87 |
| Range of edible eggs 60-99 | |
| Number accepting grocer's statement | 88 |
| Number examining eggs | 12 |

**Factors Used in Determining Quality:**
(1) Color (3) Size
(2) Appearance (4) Shape
(5) Cleanliness, Etc.

| | |
|---|---|
| **Number Paying Premium on Eggs:** | 29 |

| **Eggs Used Daily:** | Eggs | Percent |
|---|---|---|
| Frying | 922 | 38.9 |
| Poaching | 59 | 2.6 |
| Boiling | 142 | 5.9 |
| Scrambling | 298 | 12.2 |
| Cooking | 952 | 40.3 |
| Total | 2373 | 99.9 |

| **Meal Eggs Used:** | |
|---|---|
| Breakfast | 74 |
| Lunch | 20 |
| Dinner | 6 |

| | |
|---|---|
| **Number satisfied with present quality of eggs** | 90 |

Now, if we consider first the egg preference and use in this section we will find that these 100 homes were consuming only 195.25 dozen per week (Table VII) as compared with 249 dozen for the better section surveyed, or a difference of 261.3 eggs per capita in favor of the better section.

In regard to the source of their eggs, fifty-seven percent bought them from independent groceries; twenty-three percent from chain stores, only eight percent had farm delivery, and only two regularly patronized market wagons. Ten percent had no definite place to buy them, but in most cases they were bought from the nearest store and with little complaint as to quality secured. Only ten percent expressed dissatisfaction with present quality of eggs being gotten with an average of only 87 percent of the eggs being edible, and in some cases only 68-75 percent. Still they expressed a desire for somewhat better eggs but said "there was nothing they could do about it," since only 29 percent paid or seemed able to pay premium on their eggs. It is quite evident that these people are forced to let their personal preferences as to quality of eggs be governed by their ability to pay for it.

In regard to preference as to shell color forty-eight percent had none, thirty-seven preferred brown shells and fifteen percent preferred the white ones. However, only a desire strong enough to select their own eggs, but the majority "just took what the groceryman had," regardless of color, cleanliness or appearance.

The majority of them liked the dark (rich) yolk (60%). Nine preferred the light yellow, seven the medium yellow yolk and twenty-four

percent had no preference whatsoever.

Too, seventy-four percent preferred a thick white, seven a medium thick, one a watery and six percent had no preference at all as to white condition.

Sixty percent preferred the large egg, twenty-eight the medium, one the small and eleven percent had no preference but took whatever they could get.

However, twelve percent of these families were using no eggs at all and twelve or more percent were using less than one dozen per week. This was due, in every case, to lack of sufficient money or the high price of eggs at the present time (40-45 cents per dozen).

The use of the eggs was another interesting factor (Figure 7). It will be noticed that most of the eggs were used in the cooking, with frying and scrambling leading in preparation for consumption. Only 5.9 were boiled and 2.6 percent poached, due no doubt, to the possibility of the egg being unedible. Then, many of the eggs were used in salads and bread and other preparations of food where they would go a little farther in large families. The people seemed to realize the importance of eggs in their diet and, in some way, were striving to use them whenever at all possible. Eighty-eight percent of these families fried some eggs, 45 scrambled some, 19 boiled, six poached and 97 used some in their cooking. If we contrast this with the West Knoxville section we will notice that there are less eggs used in the first place. Then, many less are used in poached and boiled forms with 21.6% more being

CONSUMER'S PREFERENCES AND PRACTICES IN USING EGGS

the MILL SECTION

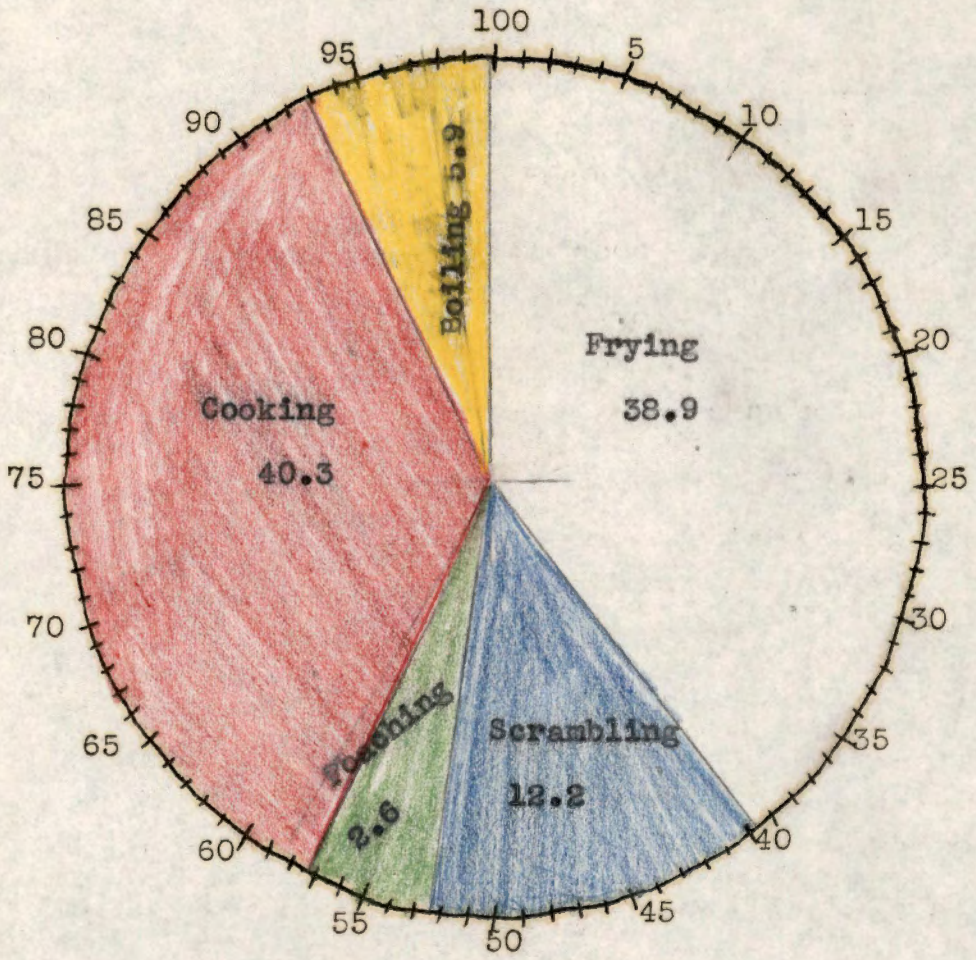



Figure 7

CONSUMER'S PREFERENCE FOR MEAT IN THE MILL SECTION

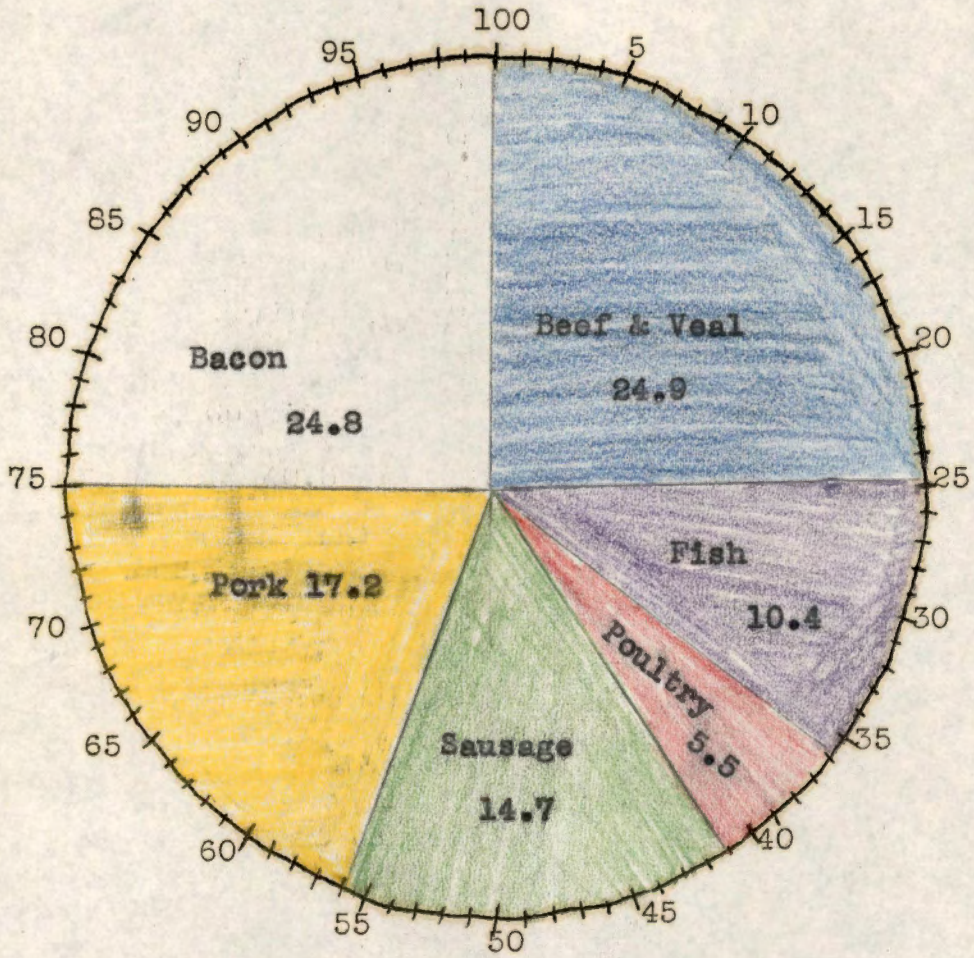



Figure 8

fried and 6.3 percent less scrambled in the poorer section.

As was found in the better section, it was found that eggs were a breakfast food here also. Seventy-four percent used them for breakfast, twenty percent for lunch and six percent for dinner. This compares favorably with the West Knoxville Section except eight percent more eggs were used at lunch in the Mill District, due both to the carrying of lunches in this section and to the taking of meals away from home at lunch in the better districts.

After a thorough study of the egg preference of this section it would seem that these consumers could best be supplied by the "common run" of county eggs and supplied from the grocery store at the lowest price possible. Many expressed the desire for more eggs, but were unable to satisfy this desire because of finances. However, a medium to large brown-shelled egg with a "rich" yolk and a thick white of average quality and relative clean shells, would be the most desirable product for the consumers of this section.

TABLE VIII

THE TEXTILE MILL AREA PREFERENCES AND PRACTICES IN BUYING AND USING MEATS

| | |
|---|---|
| Number of families | 100 |
| Average number in family over 4 years | 4.76 |
| Meat Markets Patronized: | |
| Number patronizing one market | 54 |
| Number patronizing two markets | 29 |
| Number patronizing two or more markets | 17 |
| Number times Meat Served Daily: | |
| Number serving 3 times daily | 12 |
| Number serving twice daily | 31 |
| Number serving once daily | 51 |
| Number serving less than once daily | 6 |

| Amount of Meat Used per Week: | Pounds |
|---|---|
| Bacon | 291 |
| Sausage | 205.5 |
| Pork | 197 |
| Beef and veal (Hamburger) | 289.75 |
| Lamb (by only one person) | 1 |
| Poultry | 61.5 |
| Fish (mostly salmon) | 133.5 |
| Total meat used weekly | 1179.25 |

| | |
|---|---|
| Average pounds meat per family per week | 12.00 |
| Average pounds meat per person per week | 2.52 |
| Average pounds meat per person per day | .36 |
| Average pounds meat per family per year | 623.75 |
| Average percapita consumption for area | 131.04 |

Per Capita Consumption of Meat:

| | Pounds | Percent | Pounds |
|---|---|---|---|
| Beef and veal | 0.625 | 24.91 | 32.5 |
| Lamb | 0 | 0 | 0 |
| Poultry | .130 | 5.29 | 6.8 |
| Fish | .260 | 10.40 | 13.5 |
| Pork | .432 | 17.17 | 22.5 |
| Sausage | .440 | 17.40 | 22.8 |
| Bacon | .623 | 24.83 | 32.4 |
| Total Pork | 1.495 | 59.40 | 77.7 |
| Total | 2.510 | 100.00 | 130.5 |

TABLE VIII (Continued)

| | |
|---|---|
| Number buying meat directly from farmers | 21 |
| Preference of Cuts: | |
| Number preferring lean cuts of beef | 89 |
| Number preferring fat cuts of beef | 3 |
| Number preferring mixed cuts of beef | 8 |
| Number preferring lean cuts of pork | 44 |
| Number preferring fat cuts of pork | 47 |
| Number preferring mixed cuts of pork | 9 |

Cuts found most satisfactory or used principally

(1) Hamburger
(2) Salmons
(3) Side bacon
(4) Stew beef
(5) Veal chops
(6) Pork chops
(7) Chuck roast
(8) Round steaks
(9) Ham

Cuts mentioned as being found least satisfactory

(1) Bacon - old, tough, stringy, no grease, rind thick, too fat and hard to cook.
(2) Roasts - tough and gristles.
(3) Steaks - old, tough, gristles.

| | |
|---|---|
| Number buying most expensive cuts | 32 |
| Number buying less expensive cuts | 62 |
| Number buying both | 6 |
| Number preferring hog lard | 28 |
| Number preferring vegetable compound | 92 |
| Number using hog lard | 8 |
| Number whose butcher prepared meat as desirable as possible[1] | 59 |
| Number whose butcher took no special pains with meat | 41 |

1. Most of these people bought meats from the grocery and did not patronize any butcher regularly.

## CONSUMERS' PREFERENCES AND PRACTICES IN BUYING AND USING MEAT

The same factor that limited the egg consumption in this area will likewise be found to interfere with usage of meats. Where the wages are low, credit from one week to the next is essential for these people. As a result fifty-four percent of them (Table VIII) patronized only one meat market; twenty-nine percent patronized two meat markets and seventeen percent bought from several sources. However, the greater percentage of the meat for this section came from the "Corner Grocery" rather than a recognized meat market. This was essential for several reasons. Here credit could be established, and likewise a cheaper grade of meat could be secured. The meat from this source was, in most cases, distributed without any special choice. In fact only about 60 percent expressed this desire for their butcher to "take any particular pains in preparing their meats" and the most of these were referring only to "a desirable cut" and not to boning or other special way of preparation. Forty-one percent said their butcher just "sliced off their meat" and took no special pains in pleasing them.

Twelve percent of these homes served meat three times daily as compared with only four percent in the better section. Thirty-one percent served it twice daily as compared with seventy percent in the better district, and fifty-one percent served it once and twice daily while six percent had meat less than once daily.

It seems that pork was the preferred meat in the majority of the households. This consisted principally of salt bacon and sausage and

a total of 75.92 pounds per capita consumption or 58.2 percent of all meat used. Beef and veal primarily in the form of hamburger, the cheaper roasts, and veal chops made up 25 percent of the meat consumed. Only one person used lamb and very few used chicken. The latter made up only 5.2 percent of the 131.04 pounds of meat per capita consumption.

Twenty-one percent of the people of this section bought some meat directly from the farmers. It consisted almost entirely of pork sausage and chicken. The remainder of the meat was bought at the places previously specified in this study.

Eighty-nine percent of the homes preferred the leaner cuts of beef, three preferred fat cuts and eight expressed the fact that they preferred the well marbled cuts of beef. Forty-four percent preferred lean cuts of bacon while 47 percent showed a preference for fat cuts, and nine percent preferred a mixture of fat and lean meats.

There was a great deal of complaining throughout this section about the quality of meat they were getting. The bacon was many times old, stringy, contained no grease, a thick rind or was almost "impossible to cook." The roasts and stews were often too dry, tough and contained much gristle, and the steaks were always tough. Many were dissatisfied but expressed their impossibility of doing better as long as the financial standing was the same. Little sliced bacon was used, and less fresh meat than for any other section surveyed.

Only thirty-two percent of these people were willing to pay more and get the better cuts and sixty-two percent bought the less expensive

cuts of meat. This did not mean they bought T-bone steaks and choice and prime cuts when they stated they bought the most expensive cuts, but merely that they "bought the best their grocer furnished them," in most cases. However, in some cases, although living conditions were among the lowest, they served the best meat available in the city markets.

Only eight percent of these families preferred the use of hog lard and 92 percent preferred vegetable compound. This, no doubt, was partly due to the higher price of the hog lard.

Therefore, in this area it is evident that the peoples' preferences are limited materially by their incomes. They prefer the cheaper cuts because this is "all they can afford." They use meat two-three times daily but it is of a poor quality, usually consisting of only "salt bacon." The farmers or producers could not very well supply this market directly, but must depend upon the local grocer to do it where credit is available. There is no conflict or competition between eggs and meat in this section, but there is some between the fresh and cured meats---much seasoning meat and many eggs are used in the cooking. They realize the necessity for these food nutrients in their diets, but are unable to cope with the essential means of obtaining them. All in all, this area is one typical of the poorer sections of our city and gives us an insight into the actual living conditions prevailing in areas of this standard of living. This does not mean, however, that <u>all</u> homes in this section were "poor." As has been previously stated, the best homes---and there were several thrifty, modern homes in the area---were omitted from the survey because they were not typical for the area.

## A RESUME OF THE DISTRICTS STUDIED INCLUDING PREFERENCES AND PRACTICES FOR THE CITY OF KNOXVILLE

There is essentially a summary for each of the sections of Knoxville studied in these surveys. These vary widely, as was expected, with the areas as they themselves varied with their differences in income and standards of living. However, throughout the study of these results we have common elements brought together as a unit for the areas and they, in turn, may be brought together in a form that will give us a basis for sectional comparisons, as well as a base for formulating the preferences and practices in buying and using eggs and meat for the city as a whole. This, of course, will not be an accurate basis due to the small supply of available data, but will at least give some idea about these factors studied and their relationship.

As this data is studied, it must be kept in mind that there are variations with the seasons and with the class of people from which it was obtained, and consequently the value of the computations and averages presented will be necessarily limited to the degree of accuracy which is obtained in the survey records. Special care was used in obtaining all figures and opinions for accuracy, in so far as circumstances would permit, and even greater precaution was taken in calculating the results and analyzing the reports made from these areas. Nevertheless, it is realized that possibilities for mistakes, misconceptions and inaccurate conclusions are great; otherwise, this report should present a clear conception of the city's preference and practices for eggs and meat.

This study will be based on a survey of four hundred homes covering 1,841 individuals, 108 of which are children under four years of age. It is represented by all classes of the consuming population and presents a comparison of these groups as they appear under their different standards of living.

Two hundred and one of these households live under excellent environmental conditions, ninety-two under good conditions, forty under fair conditions, forty-nine under poor conditions and eighteen under very poor environmental conditions (Figure 9). These are representative of all income groups from professional and retired business men to those on direct relief. It is hoped to give an average and a fair representation of the city's actual conditions as they are at present.

Table IX gives a part of these conditions by showing "The total number of households and persons and the average number of persons per household."

TABLE IX

| Section | Total Number Households | Total No. Persons | Av. No. Per Household | Av. No. Over 4 Years |
|---|---|---|---|---|
| West Knoxville | 100 | 435 | 4.35 | 4.17 |
| Sequoyah Hills | 100 | 471 | 4.71 | 4.58 |
| Park City | 100 | 410 | 4.10 | 3.82 |
| Mill Section | 100 | 525 | 5.25 | 4.76 |
| KNOXVILLE | 400 | 1841 | ~~4.03~~ 4.60 | 4.33 |

The number of persons in a family and the number of children per family may influence the preference for both eggs and meats. As is shown above, the larger families were found in the poorer areas. The Sequoyah Hills and West Knoxville areas are somewhat high in number in

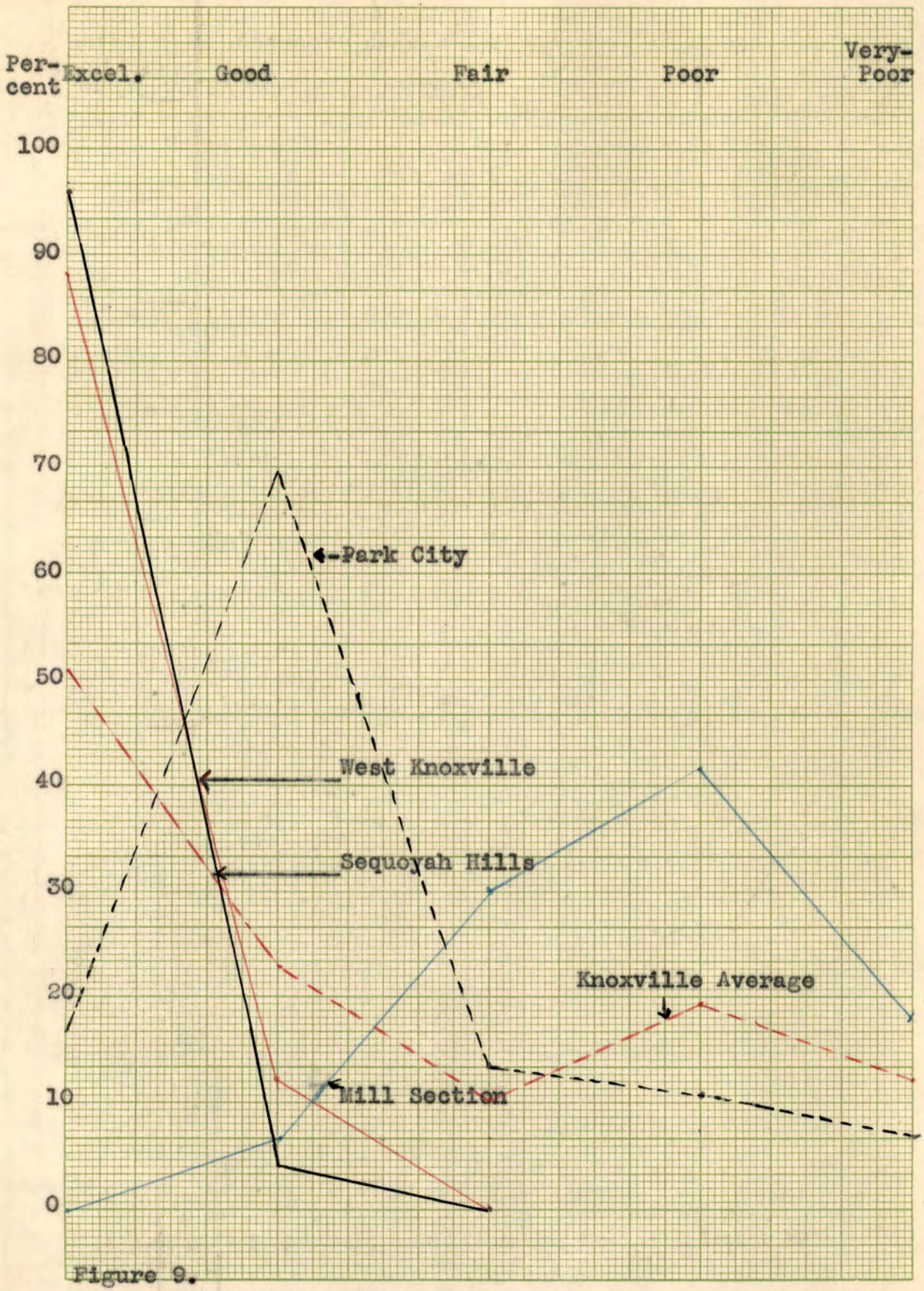



Figure 9.

Published by The H. Cole Co., Columbus, Ohio, No. 290 G.

family because of the great number of servants included;[1] however, the above statement was found to be true. Table X shows the average size of family in each section and the average for all territories surveyed.

Likewise the consumption, practices and preferences are dependent to some extent upon their ability to pay as shown by their environmental conditions. Following is a brief classification of residences surveyed as to environmental basis and standards of living. (See illustrations on following pages).

TABLE X

CLASSIFICATION OF RESIDENCES IN SURVEYED AREA

| Section | Excellent | Good | Fair | Poor | Very Poor |
|---|---|---|---|---|---|
| West Knoxville | 88 | 12 | 0 | 0 | 0 |
| Sequoyah Hills | 96 | 4 | 0 | 0 | 0 |
| Park City | 17 | 69 | 10 | 4 | 0 |
| Mill Section | 0 | 7 | 30 | 45 | 18 |
| Knoxville Total | 201 | 92 | 40 | 49 | 18 |
| Knoxville Average | 50.2 | 23.0 | 10.0 | 12.3 | 4.5 |

The above table gives in insight into the home conditions of these families and their earning power as an average for the communities from which surveys were taken.

These groups were previously discussed separately and now shall be treated more or less as a unit for the city's average. With these preliminary remarks, the consumers' preferences and practices for the city will be taken up in order as previously studied in the different sections.

1. Servants eating two or more meals were included in the survey.

## CONSUMERS PREFERENCES AND PRACTICES IN BUYING AND USING EGGS

The study of these sections as a unit reveals some valuable information for contrast and comparison between sections and for the city as a whole (Table XI).

The four hundred families, composed of 1,841 people, 108 of which are children, consumed 1010.75 dozen eggs weekly. For the 4.6 average persons per family for the city there were consumed per day an average of 2.5 dozen eggs per week; 4.33 eggs per day or .94 eggs per person daily, making a total of 343.5 eggs or 28.62 dozen per capita annually. This is above the average consumption for the United States. According to Sherman "The United States Census Bureau estimates the egg industry at 17.5 dozen eggs per capita annually." This is an average of 210 eggs or four eggs for each person per week in our country. This is likewise above the average consumption of 14.3 dozen per capita annually for Tennessee.[1] The low consumption per capita for the Mill Section was responsible for the per capita of the city being under an "egg a day" for each of its consumers. Nevertheless, this is yet above the average and on the increase, it seems. A definite seasonal tendency is shown in the poorer sections especially. This may be a natural result of seasonal price changes, but is somewhat independent of them. For example, October, November and December are months of relatively large consumption and also of somewhat higher prices. On the other hand in March and April consumption is high while prices are usually lower than in winter

1. Allred, Op. cit. p. 10.

ILLUSTRATION 1: EXAMPLES OF "EXCELLENT TYPE" HOMES.





ILLUSTRATION 2: EXAMPLES OF "GOOD TYPE" HOMES.





ILLUSTRATION 3: EXAMPLES OF "FAIR TYPE" HOMES.





ILLUSTRATION 5: EXAMPLES OF "VERY POOR TYPE" HOMES.





TABLE XI

A SUMMARY OF CONSUMERS PREFERENCES AND PRACTICES IN BUYING AND USING EGGS IN KNOXVILLE, TENNESSEE

| | | |
|---|---|---|
| Number of families | | 400 |
| Average number in family (including servants) | | 4.605 |
| Home Classifications: | Percent | Number |
| Excellent | 50.25 | 201 |
| Good | 23.00 | 92 |
| Fair | 10.00 | 40 |
| Poor | 12.25 | 49 |
| Very poor | 4.50 | 18 |
| Number dozen eggs per family weekly | | 2.527 |
| Number eggs per family daily | | 4.33 |
| Number eggs per person daily | | .941 |
| Per capita consumption (dozens) | | 28.62 |
| Source of Eggs: | | Percent |
| Farm delivery | | 38.50 |
| Independent grocery | | 32.00 |
| Chain stores | | 12.50 |
| Market wagon | | 5.75 |
| More than one source | | 11.25 |
| Egg Preferences: | | |
| Shell Color: | | |
| Brown | | 33.25 |
| White | | 28.25 |
| No preference | | 38.50 |
| Condition of Shell: | | |
| Clean | | 95.25 |
| No preference | | 4.75 |
| Yolk Color: | | |
| Deep orange | | 50.75 |
| Medium yellow | | 16.25 |
| Light yellow | | 11.50 |
| No preference | | 21.50 |
| Condition of Egg White: | | |
| Thick | | 56.50 |
| Medium | | 27.50 |
| Watery | | 1.25 |
| No preference | | 14.75 |

TABLE XI (Continued)

| Egg Size: | Percent |
|---|---|
| Large | 65.00 |
| Medium | 25.25 |
| Small | 0.75 |
| No preference | 9.00 |

| Egg Buying: | |
|---|---|
| Percent edible eggs (est. average) | 96 |
| Percent accepting grocer's statement as to egg quality | 86.5 |
| Percent examining eggs personally | 13.5 |

Factors Considered in Judging Egg Quality:
(1) Appearance (2) Shape (3) Size
(4) Cleanliness (5) Color

Percent paying premium on fresh eggs 41.25

Eggs Used:

| Purpose | Total Per Week | Average All Sections | Percent |
|---|---|---|---|
| Cooking | 4826 | 1207.0 | 40.28 |
| Frying | 2838 | 709.5 | 24.68 |
| Scrambling | 2023 | 505.7 | 16.43 |
| Boiling | 2009 | 502.3 | 9.83 |
| Poaching | 1122 | 280.5 | 8.78 |
| Total | 12,818 | | 100.00 |

| Meal Eggs Used: | |
|---|---|
| Breakfast | 82.75 |
| Lunch | 10.00 |
| Dinner | 7.25 |

Number satisfied with present quality of eggs 92.75

months, and in the early summer and late spring consumption is small and prices low. These changes did not seemingly affect the wealthier sections but had a direct influence on the less wealthy sections surveyed.

## PLACE OF PURCHASE

The place of purchase varied somewhat with the different sections studied, however, "farm delivery" was the primary source for every section except the mill area. Thirty-two percent mentioned the independent grocery, 12.5 percent the chain store, 5.51 the market wagons, and 11.25 percent mentioned a variety of sources. Apparently many Knoxville farmers are capitalizing upon their nearness to market by furnishing eggs directly to the consumer. In Table XII is shown the number of reports from each section naming the source or sources from which eggs were obtained.

TABLE XII

SOURCES OF KNOXVILLE'S EGG SUPPLY BY SECTIONS

| Sections | Farm Delivery | Ind. Grocery | Chain Store | Market Wagons | More Than One Source |
|---|---|---|---|---|---|
| West Knoxville | 40 | 22 | 14 | 8 | 16 |
| Sequoyah Hills | 46 | 26 | 6 | 10 | 12 |
| Park City | 60 | 23 | 7 | 3 | 7 |
| Mill Section | 8 | 57 | 23 | 2 | 10 |
| Averages: | 38.5 | 32.0 | 12.5 | 5.57 | 11.25 |

The study made by Mayes[1] was comparative to this West Knoxville survey except that more of his housewives preferred farm delivery.

With the exception of Park City this study as a whole compares favorably with the study made in Pennsylvania[2] and in Rhode Island[3]

1. Mayes, Op. cit. p. 7.
2. Charles and Lininger, op. cit. p. 11.
3. Corbett, op. cit. p. 12.

where the percent of families buying from farmers were higher in the wealthier class and decreasing as the income rating decreased. As a whole, this was true for Knoxville also.

## EGG PREFERENCE - SHELL COLOR

In supplying a market a farmer should know the preferences and fancies of his consumers and endeavor to cater to these desires. Many housewives have used the shell color as a means of judging egg quality and consequently have used it as an index to egg preferences. For example, in New York the study made by Thomsen and Winton[1] revealed the fact that more than fifty percent preferred white-shelled eggs. The study in Rhode Island[2] and Pennsylvania[3] revealed the fact that they were about equally preferred, with less preference in the poorer classes and the wealthier class preferring dark shells and yolk.

In Knoxville we found a slight preference for brown-shelled eggs with the majority having no preference in this respect. Therefore, 71.75 percent of these consumers could be satisfied with the brown-shell egg.

TABLE XIII

CONSUMERS' PREFERENCE FOR EGG SHELL COLOR
IN KNOXVILLE BY SECTIONS

| Section | Brown | White | No Preference |
|---|---|---|---|
| West Knoxville | 46 | 28 | 26 |
| Sequoyah Hills | 29 | 29 | 42 |
| Park City | 39 | 23 | 38 |
| Mill Section | 37 | 15 | 48 |
| Average: | 33.25 | 23.25 | 38.50 |

1. Thomsen and Winton, op. cit. p. 13
2. Corbett, R. B., op. cit. p. 12
3. Charles and Lininger, op. cit. p. 11

All in all, we find the above data to compare with that from other sections with the exception of Sequoyah Hills where they were so used to buying ungraded fresh eggs that shell color was a minor factor in their preference. Otherwise we notice that as standards of living decreases, the preference as to shell color becomes less pronounced (Figure 10).

## CONDITION OF SHELL

As would be expected, all housewives with the exception of 4.75 percent preferred a clean shell (Figure 11). These others came from the poorer districts where quality eggs were difficult to get and where dingy shells didn't especially matter---at least not enough to pay a premium for---and consequently, because of price they preferred the poorer quality with these shells rather than pay more for clean shells.

## YOLK COLOR

The consumers of Knoxville seem to have a decided preference for dark yolks (Table XIV). In fact fifty-one percent definitely stated their preference as such and twenty-one percent had no preference, while sixteen percent preferred the medium yellow yolk and twelve percent the light yolk.

TABLE XIV

CONSUMERS PREFERENCE OF EGG YOLK COLOR IN KNOXVILLE

| Section | Deep Orange | Medium | Light | No Preference |
|---|---|---|---|---|
| West Knoxville | 35 | 25 | 11 | 29 |
| Sequoyah Hills | 51 | 16 | 14 | 19 |
| Park City | 57 | 15 | 12 | 16 |
| Mill Section | 60 | 7 | 9 | 24 |
| Average: | 50.75 | 16.25 | 11.50 | 21.50 |

It will be noticed here that the preference is more pronounced in

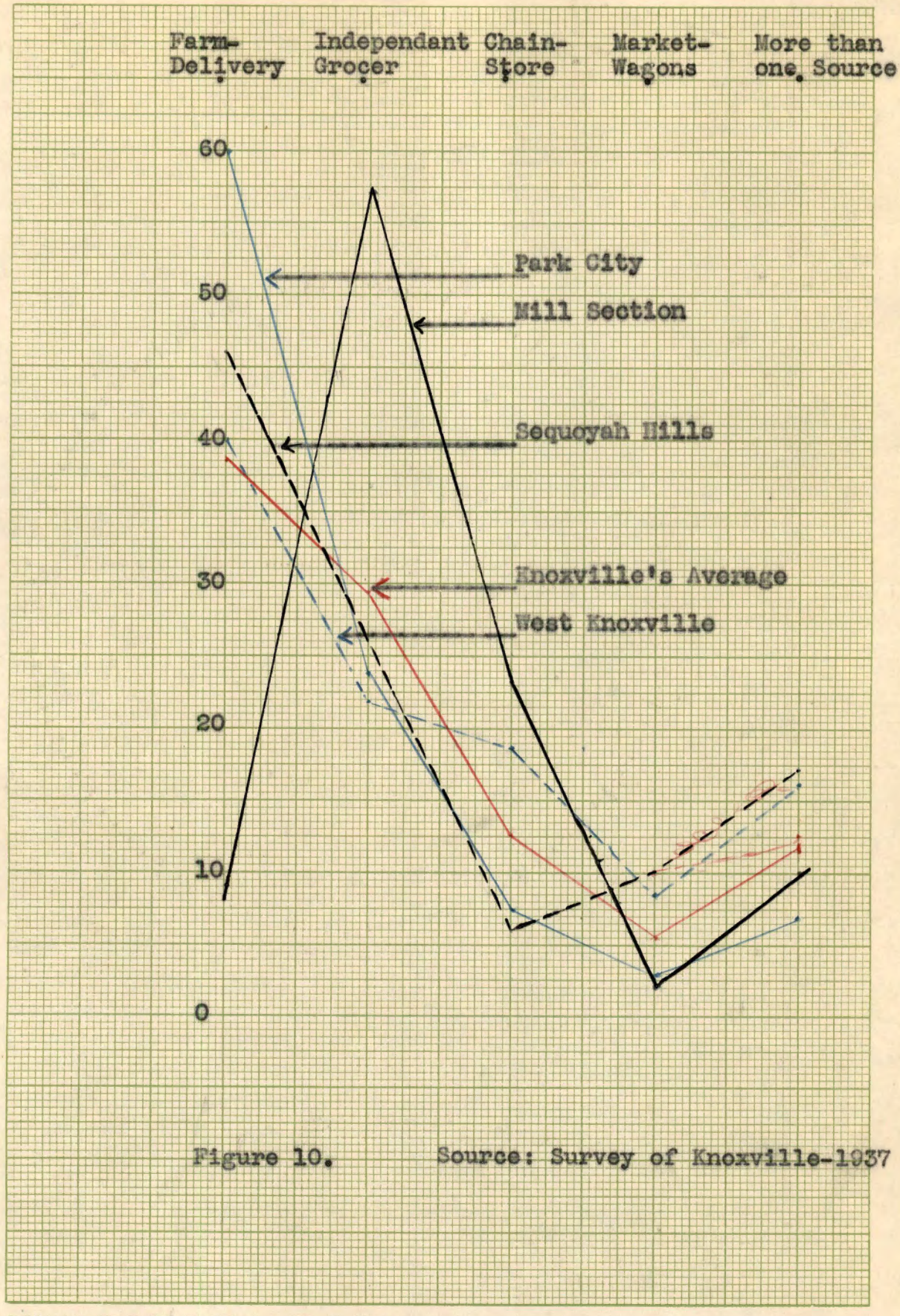



Figure 10. Source: Survey of Knoxville-1937

Published by The H. Cole Co., Columbus, Ohio. No. 290 G.

the wealthier areas with the exceptions of West Knoxville again and the Mill Section whose housewives which have a preference are decidedly in favor of the deep orange or "richer" yolk. This West Knoxville area has switched somewhat since the survey of 1933 by Mayes[1] when eighty percent preferred the light yolks. Our data differs from that obtained in other cities where most of them preferred light to medium yellow yolks. The study made by the Missouri Station[2] of New York's market revealed about the opposite of this study, in that there it was found that the wealthier classes preferred the medium to dark yolks and the fair and poorer classes preferred the light yolks (Figure 12). As a whole, one-third preferred the light yolks, one-fourth the dark, one-fifth for medium yolks and the remainder had no preference.

## CONDITION OF EGG WHITE

In Knoxville, again, a distinct preference for the thick egg white was found. Fifty-six and five-tenths percent expressed their preference for it, 27.5 percent preferred the medium thick white and 1.25 percent the watery white, while 14.75 percent had no preference. Mayes study of West Knoxville in 1933[3] revealed the preference for medium whites. This has not changed so greatly for this section (Figure XV) today. No other study was found where preference as to condition of egg white was considered.

1. Mayes, op. cit. p. 7.
2. Thomsen and Winton, op. cit. p. 13.
3. Mayes, op. cit. p. 7.

TABLE XV

CONSUMERS PREFERENCE FOR EGG WHITE CONDITION
IN KNOXVILLE BY SECTIONS

| Section | Thick | Medium | Watery | No Preference |
|---|---|---|---|---|
| West Knoxville | 44 | 36 | 2 | 18 |
| Sequoyah Hills | 52 | 30 | 0 | 18 |
| Park City | 56 | 27 | 0 | 17 |
| Mill Section | 74 | 17 | 3 | 6 |
| Averages: | 56.50 | 27.50 | 1.25 | 14.75 |

This table gives a visual guide to the preference of our consumers for egg whites. It will be seen (Figure 13) that the poorer sections have more preference in this case than do those in the higher income groups taken as a whole, therefore, seventy-one percent of our consumers would be satisfied with the thick egg white and even more in the less wealthy homes.

## EGG SIZE

As would be expected, as long as eggs are selling by the dozen, sixty-five percent of our consumers preferred the larger eggs. Twenty-five percent preferred the medium-sized eggs, nine percent had no preference, while less than one percent (.75) preferred the small eggs. This was representative of all the other studies made also. The variations were more pronounced in the poorer sections with as high as seventy-four percent preferring the large egg.

## EGG BUYING

The people of Knoxville seem to have great confidence in their grocerymen. Only 13.5 percent examined the eggs themselves; the other 86.5 percent depended directly upon the groceryman's statement for the

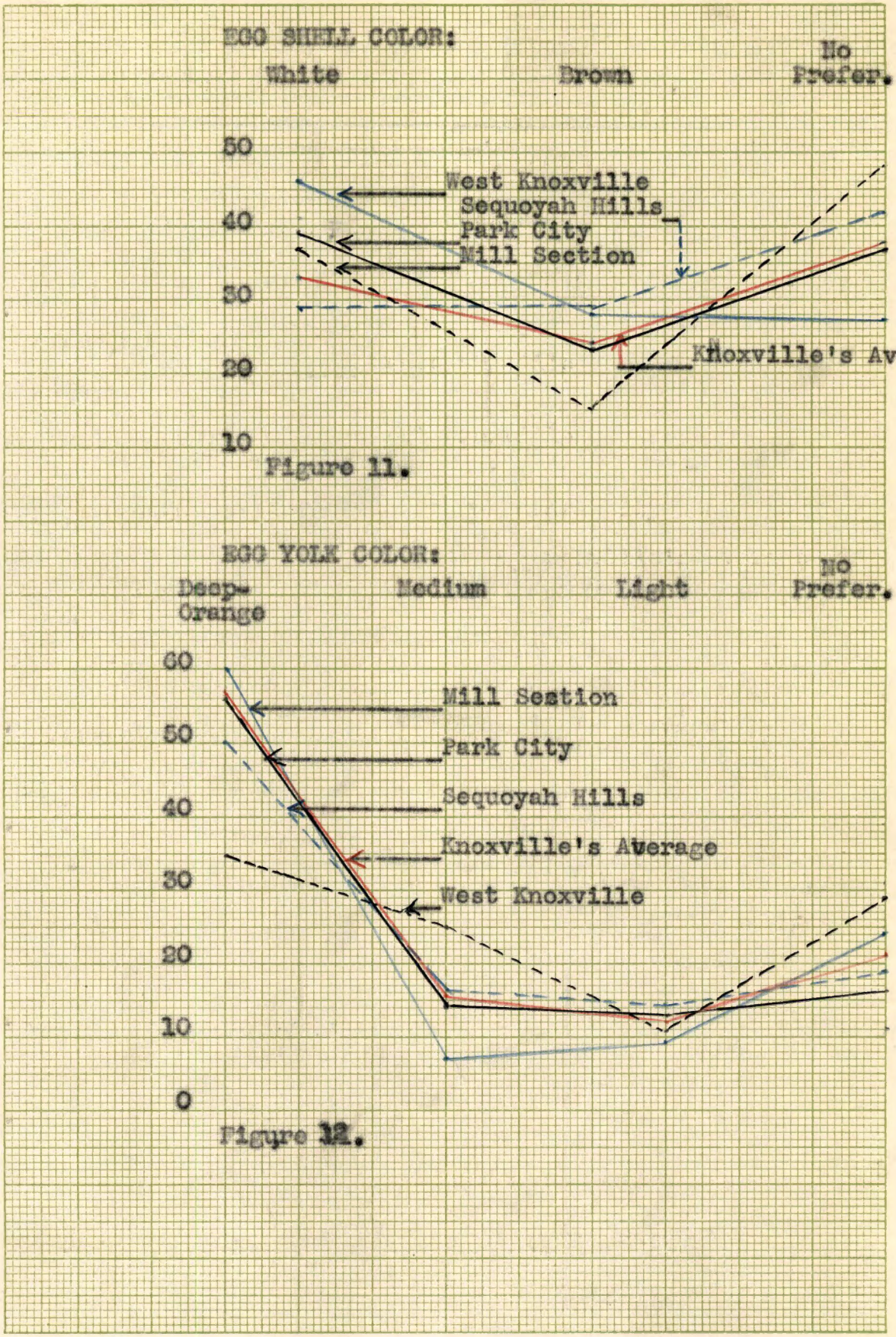



Figure 11.




Figure 12.

Published by The H. Cole Co., Columbus, Ohio. No. 290 G.

# CONSUMER'S PREFERENCE AS TO EGG WHITE CONDITION.

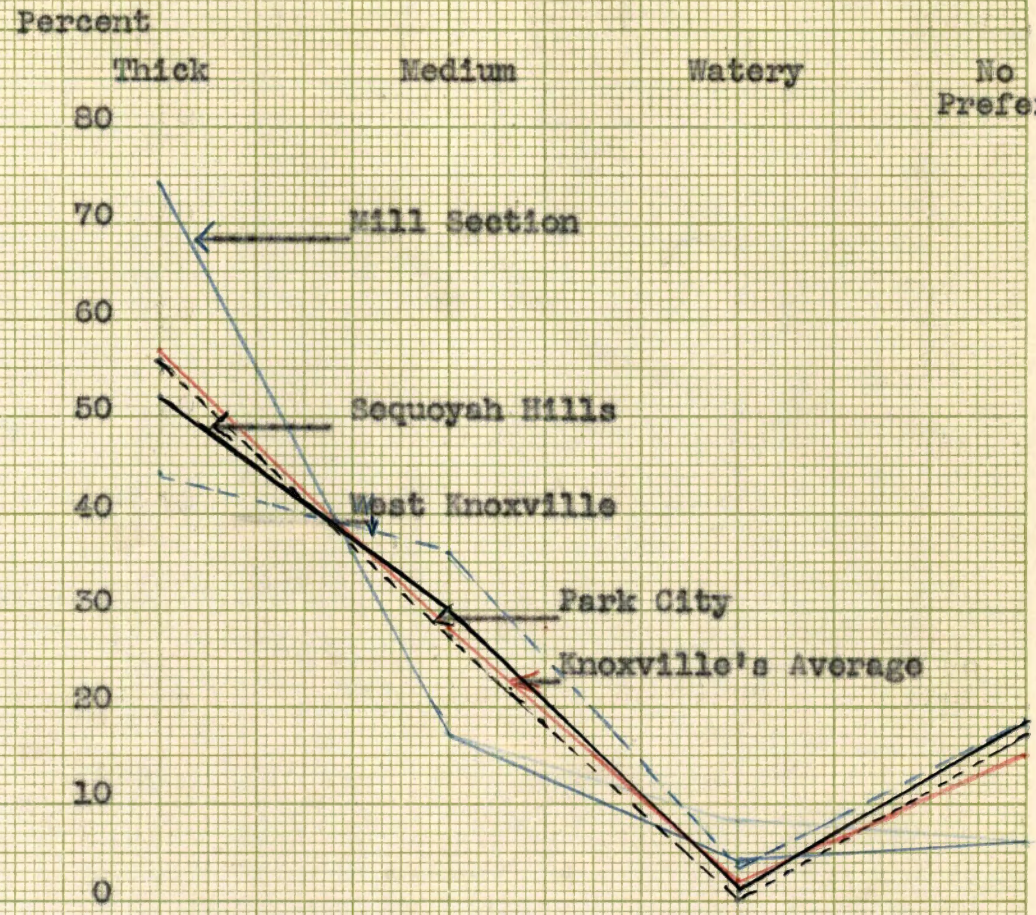



Figure 13

Source: Survey of Knoxville Areas, 1937,

Published by The H. Cole Co., Columbus, Ohio. No. 290 G.

freshness of their egg supply. This may have been partly due to their high percentage of edible eggs obtained. Less than four percent were inedible and most of these were in the poorer areas studied.

Forty-one percent, however, were paying a premium on their eggs. This was due, in most cases, to the number patronizing chain or independent grocery stores where quality demanded a premium. Where farm delivery was greatest, those paying a premium on eggs, even for the freshest supply, was greatly reduced. Nevertheless, 92.75 percent were well satisfied with their egg supply.

## EGG USES

Eggs were found to be essentially a breakfast food (Table XVI). In fact 82.75 percent of the families used them as such. A greater percentage in the lower income groups used them for lunch, due primarily to carrying of lunches, and more in the higher income groups used them for dinner (Figure 15). However, as a whole, only the ten percent used them mostly for lunch and 7.25 percent for dinner.

TABLE XVI

MEALS EGGS USED IN KNOXVILLE

| Section | Breakfast | Lunch | Dinner |
|---|---|---|---|
| West Knoxville | 86 | 6 | 12 |
| Sequoyah Hills | 84 | 5 | 11 |
| Park City | 89 | 9 | 2 |
| Mill Section | 74 | 20 | 6 |
| Averages: | 82.75 | 10.00 | 7.25 |

These same results were found by Mayes in 1933 in Knoxville; by Corbett at Rhode Island in 1928, and all other stations reporting on

this phase of the study. We can rest assured, therefore, that eggs are decidedly a breakfast food.

TABLE XVII

PREFERENCE IN EGG USES BY PERCENTAGE CONSUMPTION IN THE DIFFERENT SECTIONS OF KNOXVILLE, 1937

| Section | Frying | Boiling | Poaching | Scrambling | Cooking |
|---|---|---|---|---|---|
| West Knoxville | 17.30 | 10.60 | 10.70 | 18.30 | 43.10 |
| Sequoyah Hills | 16.05 | 10.80 | 14.66 | 18.63 | 39.86 |
| Park City | 26.48 | 11.95 | 7.16 | 16.60 | 37.81 |
| Mill Section | 38.90 | 5.90 | 2.60 | 12.20 | 40.30 |
| Knoxville's Usage | 24.68 | 9.83 | 8.78 | 16.43 | 40.28 |

The major portion of these eggs, it is seen, were prepared by frying (Figure 14). This was especially true in the lower income groups, decreasing accordingly with the increasing incomes. Scrambling was used most among the higher income groups and decreased accordingly. The same was true for poaching. However, for boiling the medium group led being followed by the highest income group and accordingly to the lowest in percent so prepared. Results for eggs used in cooking did not depend upon incomes, it seemed, but was highest among the well-to-do and lower income groups and lowest for the medium class and wealth groups. Taken as a whole, however, forty percent of our city's eggs are used for cooking purposes, twenty-five percent are fried, 16.5 percent scrambled, 9.85 percent boiled and 8.75 percent are poached. In the wealthier sections, however, many are used in egg-nogs, baking, omelettes, and many miscellaneous preparations not mentioned definitely in our chart.

This data is somewhat similar to that Mayes obtained for West Knoxville in 1933, and that obtained by Corbett, of Rhode Island, in 1932.

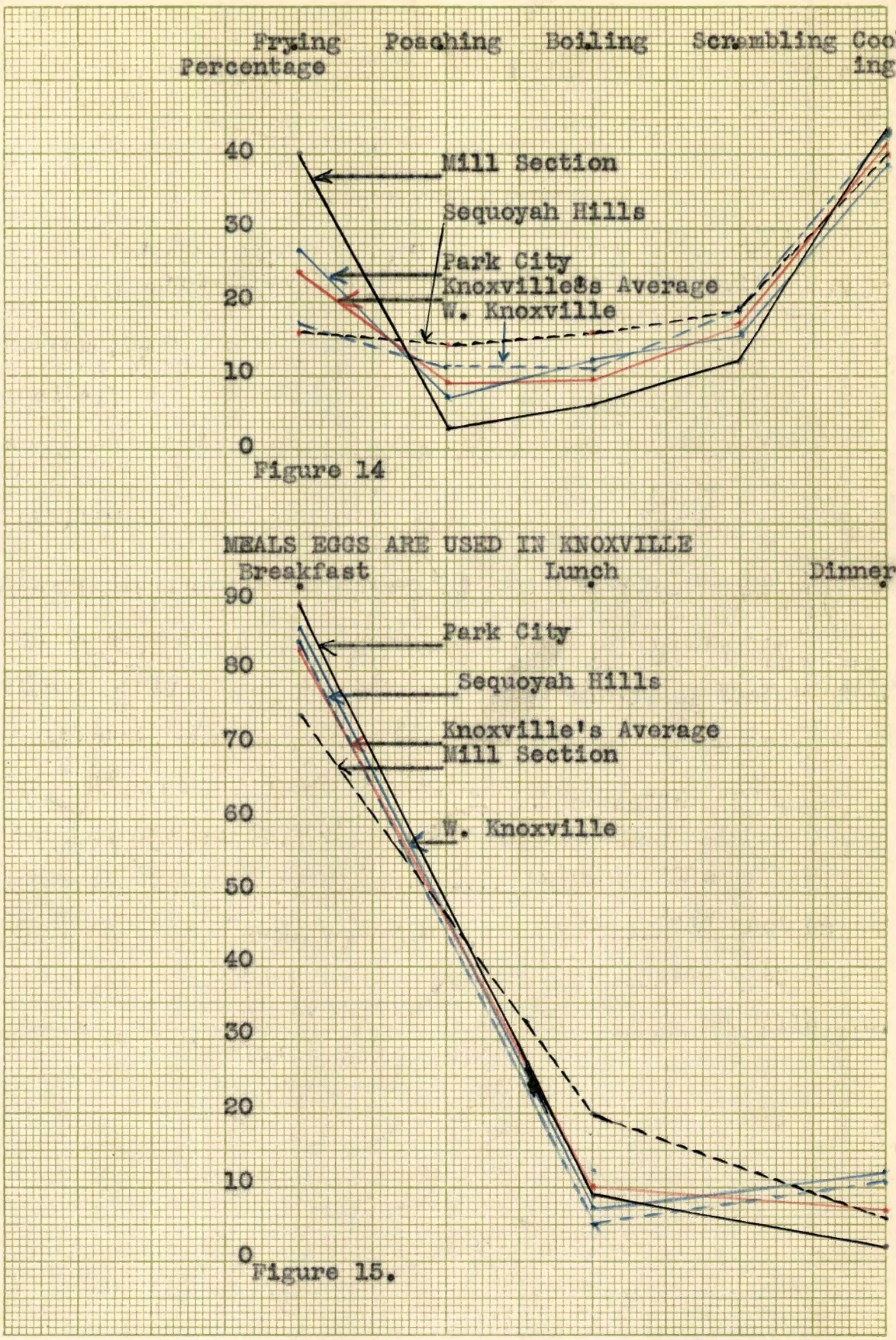



Figure 14




Figure 15.

Published by The H. Cole Co., Columbus, Ohio, No. 290 G.

However, Corbett[1] found that more of the consumers of that area prepared their eggs by boiling, then frying, scrambling and poaching in order. Like our section, too, more eggs were baked and used for omelettes in the wealthier group, but ours, unlike his, had less eggs used in the cooking in the poorer groups.

TABLE XVIII

THE NUMBER OF EGGS USED DAILY PER PERSON AND PER CAPITA CONSUMPTION IN SECTIONS OF KNOXVILLE

| Section | Frying | Poaching | Boiling | Scrambling | Cooking | Per Capita |
|---|---|---|---|---|---|---|
| Park City | .286 | .079 | .131 | .183 | .417 | 402 |
| Sequoyah Hills | .178 | .148 | .120 | .206 | .440 | 401.5 |
| West Knoxville | .146 | .099 | .093 | .170 | .396 | 365 |
| Mill Section | .251 | .016 | .036 | .081 | .232 | 165 |
| Averages: | .230 | .086 | .095 | .160 | .371 | 343 |
| Percent of total | 24.64 | 8.78 | 9.83 | 16.43 | 40.28 | 100 |

It is seen that the per capita consumption is good for all sections except the Mill Section where income was a limiting factor. With these things in mind, it is seen that Knoxville is a splendid market for eggs. The farmers are partly realizing that and are taking advantage of this opportunity. Likewise, the consumers are growing more "egg conscious" and are demanding that the eggs they desire are furnished them. It is hoped that this will be a growing desire until the consumer is so educated that "graded eggs" will demand a premium.

In brief these consumers, it seems, are demanding that their eggs be supplied either from an independent grocer or farm delivery. Over seventy percent could be satisfied with a brown-shelled egg with a deep

1. Corbett, R. I., op. cit. p. 12.

orange yolk, and over eighty percent could be satisfied with the large, clean egg with a thick white.

They, for the most part, accepted the groceryman's statement as to the freshness of the eggs and were usually satisfied with this supply. Almost one-half of the eggs were used in the cooking, with frying, scrambling, boiling, poaching following in order of popularity. These 28.6 dozen eggs per capita were consumed for the most part at breakfast and the demands were for an egg that should put the best egg producers on "tip toes" to supply these regular consumers.

## CONSUMERS PREFERENCE AND PRACTICES IN BUYING AND USING MEAT

The importance of the consumer demand in the production and marketing of meat is unquestioned. Consumer preferences for the various kinds and cuts of meat are influences of the highest importance to producers of meat animals and to distributors of meat and meat products. More definite knowledge of these consumers' preferences and buying habits in the purchasing and consumption of meat should be of great benefit in adjusting production and distribution methods to meet consumer demand and in developing programs of education designed to eliminate some of the lack of consumer knowledge which now renders the consumer peculiarly susceptible to unwitting purchases of meats and meat products of inferior quality. The retailing agency which comes in closest contact with the consumer feels the effect of these preferences of the consumer, and recognizes them first usually, but changes to meet these demands must likewise be brought about by the producer himself.

This demand of the consumer may be expressed in several ways. The quantity taken may vary with changes in quality and price as is seen here in the lower income groups. Too, the demand may be related not so much to the commodity itself as to services rendered in connection with its distribution. All these factors go to make up the markets and are due a part of our consideration in this study.

TABLE XIX

A SUMMARY OF CONSUMER PREFERENCES AND PRACTICES IN BUYING AND USING MEAT IN KNOXVILLE, TENNESSEE

| | |
|---|---|
| Number of families | 400 |
| Average number in family over 4 years old | 4.33 |
| Meat Markets Patronized: | |
| Percent patronizing one market | 51 |
| Percent patronizing two markets | 30 |
| Percent patronizing two or more markets | 19 |
| Number times meat served daily: | |
| Percent serving three times daily | 6.00 |
| Percent serving two times daily | 49.25 |
| Percent serving once daily | 36.50 |
| Percent serving less than once daily | 8.25 |

Amount of Meat Used Weekly by the 400 Families Surveyed:

| | Total Pounds | Average |
|---|---|---|
| Bacon | 742.75 | 175.69 |
| Sausage | 387.00 | 96.75 |
| Pork | 581.50 | 145.40 |
| Total Pork | 1711.25 | 427.81 |
| Beef and veal | 1611.75 | 402.94 |
| Lamb | 273.25 | 68.31 |
| Poultry | 753.00 | 188.25 |
| Fish | 401.25 | 100.31 |
| Total Meat: | 4757.50 | 1189.37 |

| | |
|---|---|
| Average per family per week (pounds) | 11.94 |
| Average per person per week | 2.88 |
| Average per person per day | .411 |
| Average per family per year | 621.75 |
| Average per capita consumption | 143.50 |
| Per Capita Consumption of Meat: | |
| Beef and veal | 48.49 |
| Lamb | 8.18 |
| Poultry | 23.24 |
| Fish | 11.73 |
| Pork | 17.75 |
| Sausage | 11.63 |
| Bacon | 22.38 |
| Total Pork: | 51.66 |

TABLE XIX - (Continued)

| | |
|---|---|
| Percent buying any meat direct from farmers | 26 |

Preference of Cuts:

| | |
|---|---|
| Percent preferring lean cuts of beef | 87.00 |
| Percent preferring fat cuts of beef | 2.50 |
| Percent preferring a mixture | 11.50 |
| Percent preferring lean cuts of pork | 74.50 |
| Percent preferring fat cuts of pork | 15.75 |
| Percent preferring mixture | 9.75 |

Cuts Mentioned as Being Most Desirable by All Classes

(1) Pork, veal and lamb chops.
(2) Pork and Beef Roasts.
(3) Steaks.
(4) Side and breakfast bacon.
(5) Ham and hamburger, salmons and sausage
(6) Leg o' lamb.
(7) Stews and chuck.

Cuts Being Found Least Satisfactory:

(1) Steaks.
(2) Side bacon.
(3) Sausage.
(4) Beef Roasts.
(5) Lamb chops.
(6) Pork roasts.

| | |
|---|---|
| Percentage buying most expensive cuts | 60.75 |
| Percentage buying least expensive cuts | 32.75 |
| Percentage buying both | 6.50 |
| Percentage preferring hog lard | 13.50 |
| Percentage preferring vegetable compound | 86.50 |

In answer to the question, "Does your butcher take any particular pains in boning or otherwise preparing your meat?" There were:

| | |
|---|---|
| Affirmative | 76.00% |
| Negative | 24.00% |

This study of four hundred families and approximately eighteen hundred individuals from sections of Knoxville, representing the different income groups, should give some idea of the practices and preferences of the consumers in this city.

Taken as a whole, fifty-one percent of them prefer to patronize only one meat market. Thirty percent patronize two markets and nineteen percent patronize two or more markets. This did not vary so widely with the different income groups, but as shown in Table XX there were fewer markets patronized in the extreme cases of low and high buying facilities than in the medium and well-to-do groups (Figure 16).

TABLE XX

MEAT MARKETS PATRONIZED IN KNOXVILLE - 1937

| Section | One Market | Two Markets | Two or More |
|---|---|---|---|
| West Knoxville | 50 | 27 | 23 |
| Sequoyah Hills | 50 | 41 | 9 |
| Park City | 50 | 23 | 27 |
| Mill Section | 54 | 29 | 17 |
| Averages: | 51 | 30 | 19 |

This analysis proved to be somewhat different from that obtained by Gardner and Adams[1] of the USDA in their study. They found, like Knoxville, that over fifty percent of all housewives patronized only one meat market but, unlike this city, the percentage decreased as the standard of living decreased. This was due in most instances to the necessity of credit in the lesser income groups and made it an essential practice for them to trade with their "corner groceryman" or a nearby

1. Gardner, K. B. and Adams, L. A., op. cit. p. 16.

MEAT MARKETS PATRONIZED BY KNOXVILLE CONSUMERS- 1937

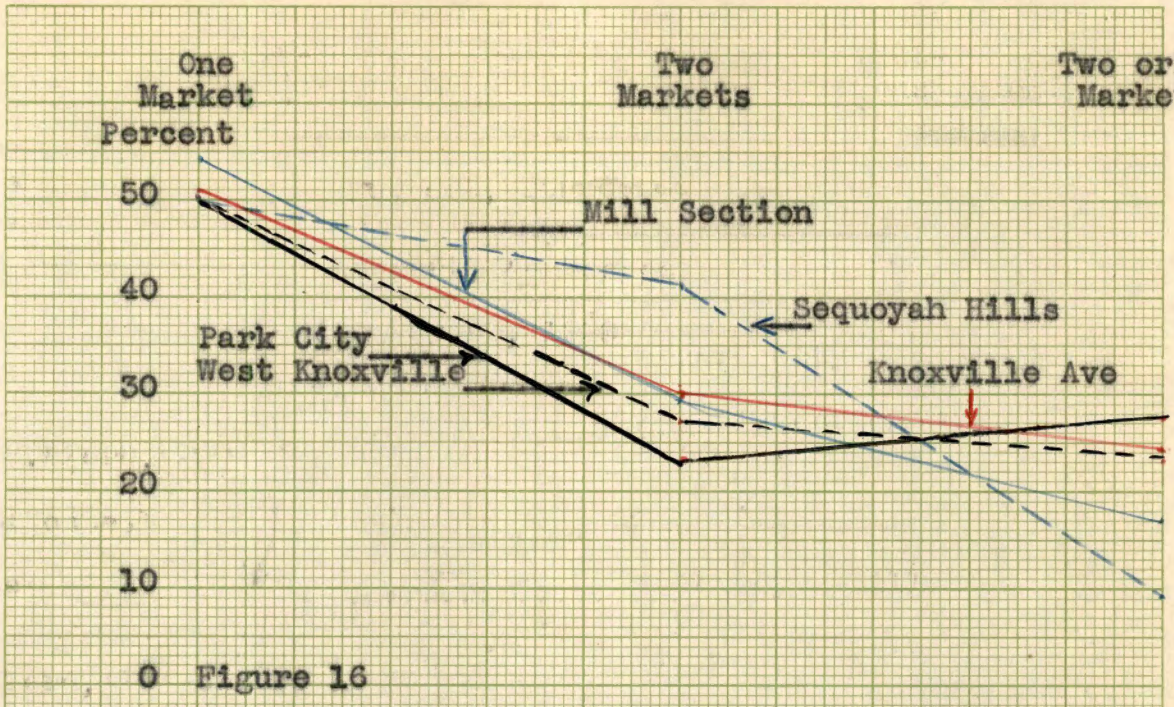



Figure 16

NUMBER TIMES MEAT SERVED DAILY IN KNOXVILLE AREAS * 1937

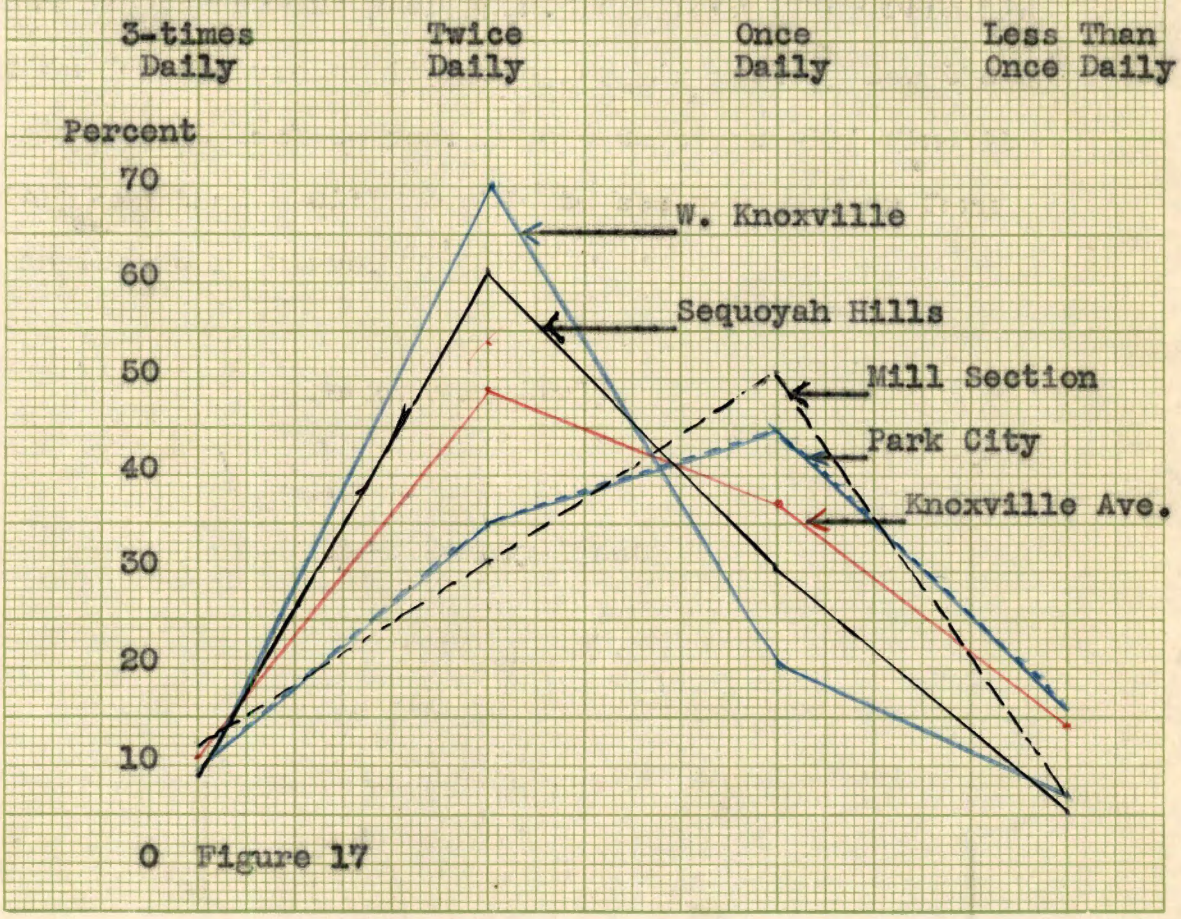



Figure 17

Published by The H. Cole Co., Columbus, Ohio. No. 290 G.

meat market. In other cases, as in the wealthy class, they depended almost entirely upon one source, but varied occasionally for some special cuts. As a whole, however, the poorer group was forced to rely more closely on a limited number of markets.

NUMBER TIMES MEAT SERVED DAILY

In about fifty percent of the cases (49.25) meat was served only twice daily in the homes of Knoxville. Thirty-six and one-half percent served meat only once daily and 8.25 percent served it less than once daily. However, six percent of them served meat three times daily. (Figure 17).

TABLE XXI

NUMBER TIMES MEAT SERVED DAILY
IN THE DIFFERENT PARTS OF KNOXVILLE

| Section | Percent Serving 3 Times Daily | Percent Serving Twice Daily | Percent Serving Once Daily | Percent Serving Less Than Once |
|---|---|---|---|---|
| West Knoxville | 4 | 70 | 20 | 6 |
| Sequoyah Hills | 4 | 61 | 30 | 5 |
| Park City | 4 | 35 | 45 | 16 |
| Mill Section | 12 | 31 | 51 | 6 |
| Averages: | 6.00 | 49.25 | 36.50 | 8.25 |

It is seen that the wealthier sections served meat for the most part twice daily. This was due to the usual necessity of being away from home at the noon meal, and then in a lot of cases it was preferred only twice daily, mornings and at night with only a light vegetable lunch being served at noon.

There were more serving three times and once daily in the poorer sections. This was due to the nature of their meats, it is believed.

Breakfast meat, composed of side bacon, was the usual serving in the poorer homes and this was left on the table all day in some cases. Then in others meat was only served at night, with only a light sandwich lunch of eggs and vegetables being used. It seems, then, that meat was served more frequently in the wealthier homes even where the better grades of meat was used regularly.

## VOLUME OF MEAT CONSUMED

It seems that pork and beef run close for preference among the city's consumers. Although pork leads by far in the lesser income groups, beef leads just as far in the wealthier groups. Bacon is the preferred cut of pork in the larger income groups and in the poorer class. However, in the middle group pork cuts seem to be most preferred. Sausage consumption runs rather low for all groups (Figure 18) but we must consider the season the surveys were made and take this into account in making definite decisions. The least income group used most sausage at this time; however, more prepared meats were utilized by the wealthier families. Lamb and poultry were decidedly a food for the wealthier group. The use of fish was not limited to any special group but was used by all of them.

### TABLE XXII

### PER CAPITA CONSUMPTION OF MEATS IN KNOXVILLE, 1937

| Section | Beef veal | Lamb | Poultry | Fish | Pork | Sausage | Bacon | Pork Total | Meat Total |
|---|---|---|---|---|---|---|---|---|---|
| West Knoxville | 58.4 | 10.95 | 32.85 | 6.57 | 11.40 | 7.92 | 17.41 | 36.73 | 144.5 |
| Sequoyah Hills | 58.7 | 19.40 | 30.37 | 13.90 | 13.50 | 6.34 | 17.50 | 37.36 | 160.5 |
| Park City | 44.3 | 2.38 | 22.90 | 12.74 | 23.56 | 9.46 | 21.06 | 54.08 | 137.5 |
| Mill Section | 32.5 | 0 | 6.80 | 13.50 | 22.50 | 22.80 | 32.40 | 77.70 | 130.5 |
| Knox. Average | 48.5 | 8.18 | 23.24 | 11.73 | 17.75 | 11.63 | 22.38 | 51.66 | 143.5 |
| Knox. Percent | 33.8 | 5.75 | 16.25 | 8.20 | 12.30 | 8.11 | 15.59 | 36.00 | 100.0 |

PERCENTAGE CONSUMPTION OF THE DIFFERENT KINDS OF MEAT IN KNOXVILLE, TENNESSEE

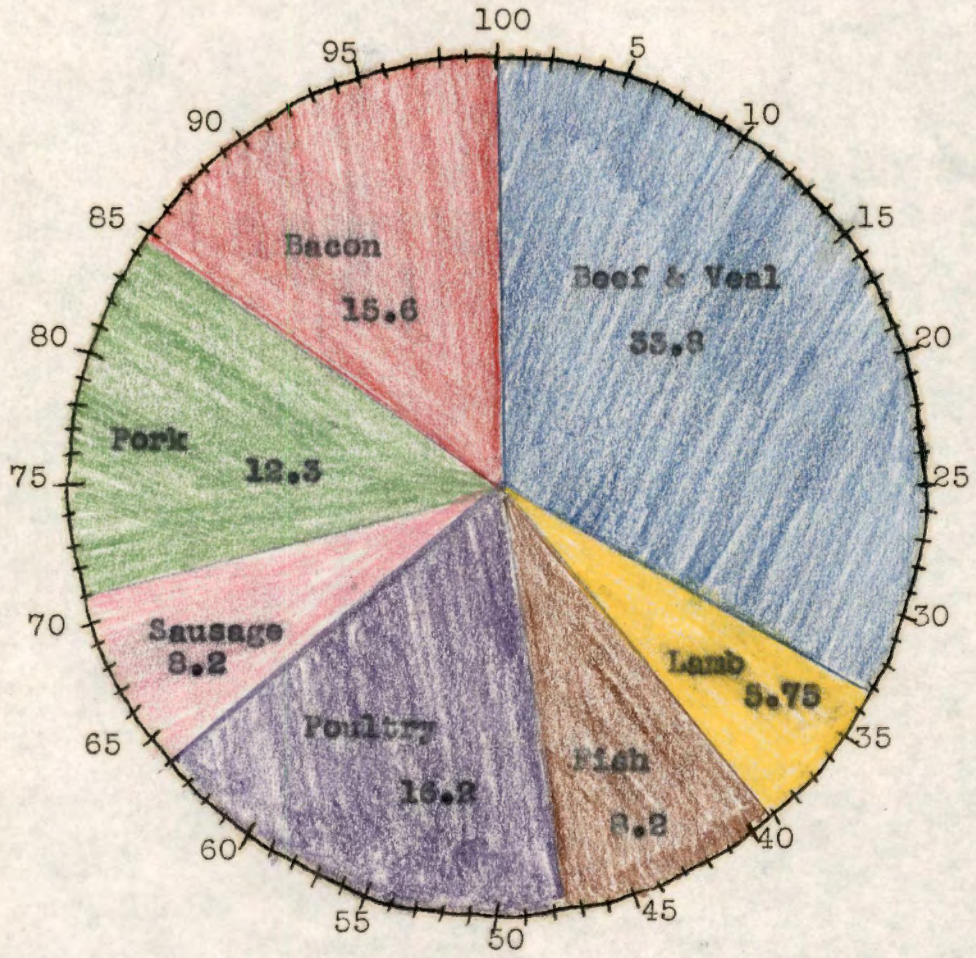



Figure 18

PERCENTAGE CONSUMPTION OF THE DIFFERENT KINDS OF MEAT

IN THE UNITED STATES

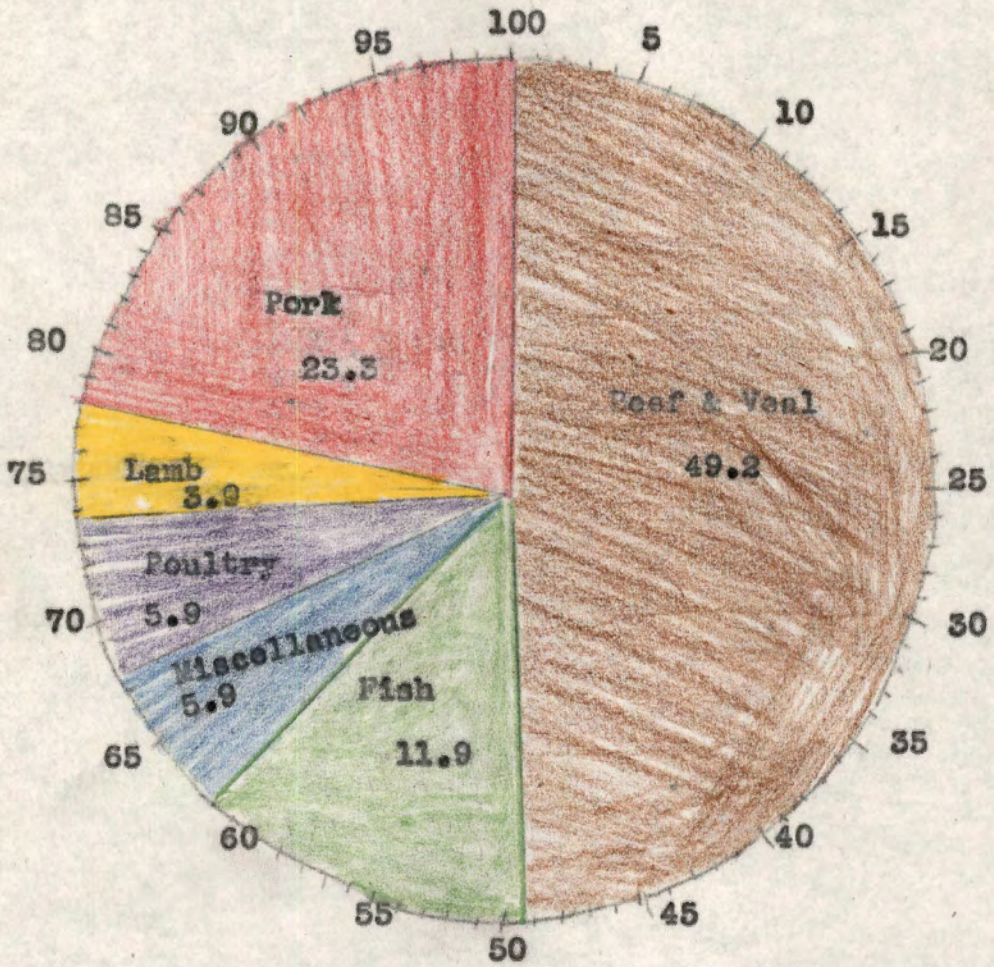



Figure 19

It is evident, then, that this well-to-do people prefer beef and veal, lamb and poultry, while the poorer groups lean toward pork to a greater extent. Like the study made by Gardner and Adams for the U.S. D.A., 1926[1]. It was found that preference for pork decreased and that for beef and veal, lamb and poultry increased with the standards of living.

However, the per capita consumption of 143.5 pounds annually is somewhat below that for this section as derived by Allred and Powell[2] of 154.5 pounds in 1928. It is also slightly below the United States per capita consumption of 144 pounds. However, the city does use more of the better cuts of meat, as lamb and poultry, than is the average, but the pork consumption is high and the beef and veal consumption correspondingly low as compared with the U.S. average. Nevertheless, the city furnishes a good market for meat and meat products that can be growing with the increasing production within a marketable radius.

1. Gardner, K. B. and Adams, L. A., op. cit. p. 16.
2. Allred, C. E. and Powell, J. C., op. cit. p. 10.

## BUYING PRACTICES

From the standpoint of the city's consumers, only a few, twenty-six percent of them, bought their meats directly from the farmers. This was somewhat greater among those of the wealthier districts and decreased with the standards of living. Only poultry, some pork sausage, and very little fresh and cured pork was obtained from this source, and that was for the most part secured from the milk man or egg man as they delivered these products.

These people all preferred a good, tender, well-marbled cut of pork or beef. However, 87 percent expressed a preference for lean cuts of beef and 74.5 percent for lean cuts of pork; 11.5 percent preferred a mixture of the two in beef and 9.75 percent preferred a mixture in the pork. The others preferred fat cuts. This preference for lean cuts was more pronounced in the wealthier groups and those of the well-to-do classes.

The cuts mentioned as being found most desirable and those mentioned as being used by the consumers of the different income groups varied directly with the standard of living, except for a few exceptional cases. The wealthy and well-to-do classes both got the meat they preferred, with little regard to price. However, the medium group was somewhat limited by this factor and was forced to switch the preference somewhat with price. Likewise, the poorer class was directly dependent upon price in either preference or amount consumed. They favored the pork cuts whereas the upper half favored the beef cuts.

Now, many of the consumers of all groups had complaints to offer in regard to their meat supply. All classes were dissatisfied with their "steak quality," many with beef roasts, pork roasts and lamb chops. Several reported a desire for more fresh pork sausage if "good, well-seasoned sausage" could be supplied. Even though sixty-one percent bought the most expensive cuts---the choicest meats available---and seventy-six percent of their butchers prepared their meats in a desired form, the cuts were of a poor quality regularly. There was a demand, especially in the better sections, for a better quality meat than these markets have been supplying, even if a higher price was essential. However, in the lower income groups the demand was for a cheap meat of good quality. One third or thirty-three percent of these consumers bought the cheaper grade cuts, while six and one-half percent alternated the quality as occasion demands.

TABLE XXIII

BUYING PRACTICES OF KNOXVILLE CONSUMERS - 1937

| Section | Buying Most Expensive | Buying Least Expensive | Using Hog Lard | Using Vegetable Compound | Buying Meat Directly From Farmers |
|---|---|---|---|---|---|
| West Knoxville | 69 | 26 | 19 | 83 | 30 |
| Sequoyah Hills | 88 | 12 | 15 | 85 | 30 |
| Park City | 59 | 32 | 13 | 87 | 23 |
| Mill Section | 32 | 62 | 8 | 92 | 21 |
| Knox. Average: | 65.75 | 33.75 | 13.8 | 86.5 | 26 |

Almost eighty-seven percent of the consumers preferred the use of vegetable compound in place of hog lard. This was in direct proportion to the standard of living with the better sections using somewhat more hog lard. This may have been due to the higher price of the hog lard or to personal preference altogether.

To briefly summarize the city's preferences and practices in the buying and using of meat it could be said that they, for the most part, preferred patronizing only one or two butchers with only about twenty-five percent buying any meat from the farmers directly.

Pork composed the principal cuts of meat used, being followed closely by that of beef and veal with poultry, fish and lamb following in order. Bacon was the principal pork cut, being followed by pork chops then sausage. These meats were served mostly once daily with slightly more than 620 pounds per family annually, or 143.5 pounds per capita consumption being used. Sixty percent of these preferred the most expensive cuts and 86.5 percent preferred vegetable compound in preference to hog lard. All in all, it seems logical to believe that the consumers as a whole prefer and will demand the best cuts the local producers can supply.

## IN CONCLUSION

Any definite conclusion or logical recommendation for these areas based upon such a meager supply of data would be an absurdity. However, pending decisions can be made for the whole city until more work is done on the subject, and the areas can be studied from the individuals making up the groups with a fair conception and an honest interpretation.

It is evident that this study reveals many of the habits and preferences of these people in their choice and purchase of meat and egg products. It is easy to see that there are constant variations between these groups of different environmental and financial status. We can see that they vary directly, in many cases, in accordance with these standards, while at other times the factors studied seem to remain the same for all the groups or vary inversely as is brought out in the survey.

Nevertheless, these variations countered the deviations and left visual comparison and a conceptive knowledge of these sections surveyed as based on a good average interpretation. It also compares favorably with similar studies made in larger cities on a larger scale.

The difficulties involved in a study of this nature are suggested in the title itself. Consumers preference among classes are continually being interfered with or completely changed regarding these products with changes in prices, seasons and even with time. The quantity consumed is likewise altered. Hence, the difficulty of forming any conclusions.

Present practices are easily determined; individual preferences of consumer interviewed, unbiased, is difficult; estimates of quantities are many times far from accurate. Nevertheless, the basis for determining the factors of this study are as logical and sound as could be expected of research or a study of this nature. Consequently, with all the possibilities for mistakes in the collection and tabulation having been closely and carefully guarded, it is sincerely hoped that the work here completed can be readily interpreted and can be the beginning of a new field in the marketing of our agricultural products.

# SUMMARY

## EGGS

1. The preferences of Knoxville's consumers were found to vary widely between areas, between income groups, and between individuals.

2. It seems that the amount and quality of food which the housewife buys is controlled principally by her income rather than her fancies.

3. Families among the lower income group were less discriminating as to egg quality.

4. The percent of families buying eggs directly from farmers was highest among the higher income groups, and varied in direct proportion to income among the other groups (Table XII).

5. More eggs were used for baking and cooking in the higher income group (Table XVIII).

6. The per capita consumption for eggs was 28.6 dozen, being highest among the larger income group (Table XI).

7. Slightly more than 33 percent of the housewives interviewed expressed a preference for brown shells. The remainder either preferred white shells or had no preference (Table XIII).

8. No distinct relationship was noted between shell color preference and purchasing power, although it was significant the larger income groups showed the strongest preference for brown shells as they did the darker yolks (Tables XIII, XIV).

9. Where preference was taken into consideration, 100 percent of the housewives preferred clean shell eggs (Table XI).

10. Knoxville consumers of eggs seem to have a decided preference for dark yolks, with preference being less pronounced among the lower income groups.

11. The number of edible eggs received by consumers was almost in proportion to the number of farm deliveries in the group, varying in direct proportion with group income.

12. There was a distinct preference for a thick egg white, especially in the poorer sections where many cold storage eggs were used (Table XV, Figure 13).

13. A majority of the consumers preferred the larger eggs with the variations being more pronounced as the standard of living decreased.

14. The percent of the housewives paying premiums on their eggs was directly proportionate to the income.

15. Eggs were found to be distinctly a breakfast food (Table XVI).

16. Fried eggs were most popular among the lower income group. Scrambling was most popular among the higher income groups. The same was found to be true for poaching eggs (Table XVII).

17. The use of eggs in the cooking was highest among the higher and lower income groups, and least among the medium and well-to-do groups (Table XVII).

18. In but very few cases did eggs seem to serve as a meat substitute. On the contrary, they seemed to support one another.

19. There was a pronounced desire for "good eggs" among the Knoxville consumers.

## MEAT

20. All groups of consumers preferred meats, the quality, amount and kind depending and varying directly with individuals, income and ability to pay.

21. Those consumers who were least satisfied with their egg and meat supply and quality were, in most cases, those same consumers who were patronizing a large number of stores or sources.

22. The percentage buying the most expensive cuts, increased directly with the incomes (Table XXIII). However, all groups preferred a portion at different prices.

23. Those consumers from the wealthier groups led in preference for meat directly from the farmer, decreasing in direct proportion to standard of living (Table XXIII).

24. Fewer meat markets were patronized in the extreme cases of low and high income groups than in the medium or well-to-do groups (Table XX).

25. Fifty percent of the homes served meat twice daily, 36.5 percent only once daily and nine percent served it three times daily (Table XXI).

26. The percentage of Knoxville consumers serving meat twice daily increased directly proportional to the income and those serving only once daily decreased accordingly (Fig. 21).

27. Preference for pork decreased and that for beef, veal, lamb and poultry increased with the standard of living (Table XXII).

28. There was a constant complaint among all groups regarding "tough steaks."

29. Eighty-seven percent of the consumers preferred vegetable compound to hog lard, with the number increasing directly with the standard of living (Table XXIII).

30. There was a constant demand for better meats among all income groups from better bacon to better T-bone steaks.

# BIBLIOGRAPHY

1. Allred, C. E., and Powell, J. C., Consumption of Dairy Products and Eggs in Rural Tennessee, 1928. U. T. Agri. Econ. and Rural Sociology Report No. 19, 1936.

2. Allred, C. E., and Powell, J. C., Meat Consumption in Rural Tennessee, 1928. U. T. Agri. Econ. and Rural Sociology Dept. Report No. 16, 1936.

3. Charles, T. B., and Liniger, F. F., Study of Eggs and Poultry Consumption in Pennsylvania, 1928. Penn. State Expr. Sta. Bul. 222.

4. Corbett, R. B., A Study of Consumers' Preferences and Practices in Buying and Using Eggs, 1928, 1932. Rhode Island Expr. Sta. Bul. 240.

5. Gardner, K. B., and Adams, L. A., Consumer Habits and Preferences in the Purchase and Consumption of Meat, U.S.D.A. Dept. Bul. No. 1443, 1936.

6. Mayes, T. L., Egg Consumption in West Knoxville Area, Knoxville, Tennessee, U. T. Poultry Husbandry Dept., Knoxville, Tenn., 1933.

7. Thomsen, F. L., and Winton, Berley, Consumer Preferences for Egg Yolk Color and Shell Color in New York City, 1933. Missouri Agri. Expr. Station Bul. No. 329.