

OPTIMAL STORAGE IN THE UNIT KITCHEN

by

COMMERY WALLACE COLEMAN

A THESIS

submitted to the

OREGON STATE COLLEGE

in partial fulfillment of
the requirements for the
degree of

MASTER OF SCIENCE

June 1946

APPROVED:

[REDACTED]

Head of Department of Home Economics Education
In Charge of Major

[REDACTED]

Chairman of School Graduate Committee

[REDACTED]

Chairman of State College Graduate Council

ACKNOWLEDGMENT

This study has been made under the direction of Dr. Florence E. Blazier, Head of the Department of Home Economics Education at Oregon State College. The writer wishes to express her appreciation for the continuous guidance and help given by Dr. Blazier throughout this study.

The author also wishes to thank the many teachers in the United States for their time and effort in carrying on the experiment that made this study possible.

TABLE OF CONTENTS

Chapter		Page
I	HISTORICAL BACKGROUND AND REVIEW OF LITERATURE	1
	Historical Background	1
	Review of Literature	3
	Statement of Problem	7
II	SOURCE OF DATA AND PROCEDURE	9
	Statement of Problem	9
	Construction of the Check List	10
	Distribution of the Check List	13
	Selection of Check Lists to be Used ..	14
	Description of Cooperators	16
	Types of Schools	16
	Grade Levels	18
	Size of Classes	20
	Length of Class Periods	21
	Summary	22
	Description of 487 Meals Served	23
	Adequacy of Meals	23
	Number of Cooking Processes	26
	Methods Used in Preparing Dishes ..	28
	Summary	30
	Methods of Organization of Data	31
	Utensils and Tools	31
	Additions	34
	Modifications	34
	China, Glass, and Silver	36
	Staple Foods	38
	Foods Other Than Staples	40
	Linens and Other Items	40
	Summary	42

TABLE OF CONTENTS (Cont'd)

Chapter		Page
III	ANALYSIS OF DATA	45
	Part I: Utensils and Tools	46
	Utensils Used in Preparing 487 Meals	47
	Decisions of Teachers Concerning	
	Utensils	53
	Modifications	60
	Additions	60
	Summary	77
	Part II: China, Glass, and Silver	84
	China	84
	Glass	92
	Silver	95
	Summary	98
	Part III: Staples and Other Food	
	Supplies	100
	Staple Foods	101
	Foods Other Than Staples	111
	Summary	112
	Part IV: Linens, Dishwashing Supplies,	
	and Personal Belongings	113
	Linens and Similar Items	113
	Dishwashing Supplies	119
	Personal Belongings	120
	Summary	122
IV	SUMMARY OF DATA AND RECOMMENDED LIST OF	
	EQUIPMENT AND SUPPLIES FOR THE UNIT	
	KITCHEN	124
	BIBLIOGRAPHY	135
	APPENDIX	1

LIST OF TABLES

Table		Page
1	Number of Check Lists Used From Each State ..	15
2	Types of Schools	17
3	Grade Levels	19
4	Size of Classes	20
5	Length of Class Periods	21
6	Adequacy of the 487 Meals Served	24
7	Number of Cooking Processes	27
8	Percentage of Meals in Which Utensils Were Used by 98 Cooperators	48
9	Percentage of 98 Teachers Who Decided to Include Utensils	54
10	Additional Utensils Listed by Ten or More Cooperators	61
11	Summary of Data on Recommended Utensils and Tools	79
12	Plates Used in Serving Meals	85
13	Individual Service Dishes	88
14	Serving Dishes	91
15	Glass Used in Serving Meals	93
16	Silver Used in Serving Meals	97
17	Number of Items of Staple Foods Teachers Wish to Store	102

LIST OF TABLES
(Cont'd)

Table		Page
18	Staple Foods Teachers Wish to Store	104
19	Amounts of Staple Foods to be Stored	107
20	Linens and Similar Articles Teachers Wish to Store	114
21	Types of Storage Desired for Linens and Similar Articles	118
22	Dishwashing Supplies	119
23	Personal Belongings	121

CHAPTER ONE

HISTORICAL BACKGROUND AND REVIEW OF LITERATURE

HISTORICAL BACKGROUND

The philosophy of education in the past few years has been shifting toward education for better family living. To prepare the individual to take his place in the family group, to prepare him to found and maintain a family of his own, is one of the goals of education today. This trend has been most obvious in the philosophy of the teaching of homemaking, one of the first fields of education to become aware of this need in the education of young people.

The preparation of food was one of the first phases of homemaking to be taught in the high school. In these early classes, teaching was based upon the preparation of single dishes by each girl. The requirements of the laboratory were of the science type: that is, for each girl there was a desk equipped with a gas or electric plate and a portable oven. A stool was provided for the girl to sit at her desk and eat the dish which she prepared. For economy, these desks were often grouped in a hollow square. Seldom did the girls work together in the preparation of foods. Meal planning and preparation were infrequent.

If meals were prepared at all, they usually came at the end of the food preparation unit. For this meal the dining room, if this highly desired room were available, was used for the occasion.

The present method for teaching food preparation is quite different, however. The modern philosophy of home-making education is based, as was said, upon the preparation for better family living. The present practice of planning, preparing, and serving the entire meal gives emphasis which results in better carry-over to home situations. In this method of teaching, four girls plan a well-balanced meal, prepare the foods according to the best practices they have learned, and then serve this meal in as home-like an atmosphere as it is possible to attain in a high school homemaking department. This emphasis on meal planning, preparation and service has made necessary a unit kitchen equipped with the necessary tools for the preparation of meals and with a small table for meal service near by. A unit kitchen as used in this study may be defined as an arrangement of cabinets, a range, and a sink designed for the use of four girls.

The concept of the type and number of utensils needed for four girls has been revolutionized by the change of emphasis from preparation of single foods to

teaching on the meal-preparation basis. Several lists of utensils have been compiled for a foods laboratory, but no study has been made of the type and amount of equipment that is actually used by four girls in the preparation and serving of meals.

The purpose of this study is to determine what utensils, china, glass, and silver are used in the preparation and serving of meals and what other items, such as linens and staple foods, should be stored in the unit kitchen.

REVIEW OF LITERATURE

A number of studies dealing with equipment problems of home and school have been carried on at Oregon State College. Two of these studies^(1,2) were concerned with the type of working arrangement, the arrangements for serving, and the number of girls to be provided for in the preparation of meals.

According to the O'Reilly Study,⁽¹⁾ unit kitchens for four girls are preferred as the most suitable type of work center. Small tables in each unit kitchen were desired for the serving of meals. These data were reaffirmed in the Blazier Study of 1944.⁽²⁾

-
1. O'Reilly, Justine Beyers. Opinions of Home Economics Leaders Concerning Locating, Arranging and Equipping Homemaking Departments. Master's Thesis, Oreg. State Coll., 1942.
 2. Blazier, Florence E. Space and Equipment for Home-making Education. Unpublished study.

Three studies have been carried on at Oregon State College concerning the selection of utensils. Two of these studies will be described here.

A Set of Utensils for the Farm Kitchen.⁽¹⁾ In determining the number and kind of items to be included in a list of utensils for a farm kitchen, Wilson and McCullough based their decisions upon a survey of cooking practices in 100 representative farm areas. Separate lists were made of the utensils needed for foods dishes commonly prepared in rural homes of western Oregon. These utensils were supplemented by others recommended by authorities on experimental foods and by laboratory tests of the investigators. The lists were combined and reduced to as few articles as possible. A set of utensils was then purchased and storage requirements determined. The purchased set was used by five farm homemakers in a field test. These homemakers replaced their own utensils with a test set and used it for two weeks, recording the number of times each item was used and commenting on the choice of utensils and points of design. As a result of these tests, seven items were added to the list.

1. Wilson, Maud and McCullough, Helen E. Oregon Experiment Station Circular 134, March, 1940.

Determining a Standard Set of Utensils for a High School Homemaking Laboratory.⁽¹⁾

In order to determine a standard set of utensils for a high school homemaking laboratory, Dougherty devised a check list to ascertain what foods were prepared in the homemaking classes and what methods of cookery were used for each food. This list was checked by thirty-five experienced homemaking teachers. Fifteen additional teachers were interviewed on the grouping of students in the foods laboratories and amounts of foods prepared at one time. Dougherty based her utensil lists on the assumption that four girls would be preparing food at the same time.

The utensils needed for each type of dish commonly prepared in homemaking classes as shown on the check lists were listed and the lists combined. This information was supplemented by laboratory tests until a decision concerning the most satisfactory size and shape of each utensil or tool was reached. A complete list of utensils needed was then compiled and studied. Duplicates were omitted, and consideration was given to utensils serving several purposes. A final recommended list was devised by the investigator. The utensils on the recommended list were

1. Dougherty, Ardythe Wilson. Determining a Standard Set of Utensils for a Homemaking Laboratory, Oregon State College Thesis, 1942.

purchased and assembled. The set was studied by a group of experienced teachers who recommended changes which were made in the final list. Recommendations were made by the investigator as to the place of storage: that is, in the unit kitchen or in general storage outside the unit kitchen.⁽¹⁾

Frequent reference will be made to this standard set of utensils in the present study. Hereafter the term "Dougherty Utensil List" will be used to indicate this set of utensils.

Laboratories, Equipment, and Practices Used in Teaching Foods in Oregon High Schools, 1940.⁽²⁾ Another recent study undertaken by the Home Economics Education Department at Oregon State College has influenced the present study. The purpose of this study by Hirst was to determine what facilities were used for the instruction of foods and what practices were used by teachers in the secondary schools of Oregon. Data were obtained by use of a questionnaire sent to all homemaking teachers in Oregon high schools. These data, from 198 teachers, were

-
1. For the Dougherty list of recommended utensils for a unit kitchen, see Appendix, page i. For the list of items to be in general storage outside of the unit kitchen, see Appendix, page iii.
 2. Hirst, Alta. Laboratories, Equipment, and Practices Used in Teaching Foods in Oregon High Schools, 1940, Oregon State College Thesis, 1943.

divided into three parts: (1) a description of the laboratories and equipment, (2) the conditions under which the department was operated, and (3) practices used in teaching foods.

Hirst found that there was a definite trend toward installation of unit kitchens in the foods laboratory. Of the sixty laboratories that had been in use for three years or less, forty per cent had unit kitchen arrangements. This was a definite increase over the percentage of unit kitchens in older departments.

In classes in the first year of homemaking instruction, Hirst found that approximately two meals were served in every three weeks of the foods unit. In the three upper classes of homemaking instruction, more emphasis was given meal service. Most commonly two girls worked together. However, for meal planning and preparation a group of four was the most frequently used. This was true whether the whole class was participating in the activity or only a part of the class.

STATEMENT OF PROBLEM

Although the Dougherty study was thoroughgoing, it must be recognized that the utensils on her completed list had not been used by girls in schools. It was obvious that a study using these utensils in the

preparation of meals in actual school situations would furnish valuable information. To secure this needed information the present study was devised.

The purpose of this study is to show, by means of data secured from a representative sampling of homemaking departments throughout the United States, what utensils and tools, and china, glass, and silver are used in a unit kitchen in the preparation of meals, and to determine what other items teachers wish to store in the unit kitchen; namely, linen, staples, foods other than staples, and personal belongings. These data will determine the amount of storage space needed in the unit kitchen.

CHAPTER TWO

SOURCE OF DATA AND PROCEDURE

STATEMENT OF PROBLEM

The first requirement in the planning of storage space is the listing of the materials to be stored. This study was planned to meet this requirement for storage in the unit kitchen. The purposes of the study are: first, to test out the Dougherty Utensil List in real teaching situations as a means of determining a recommended list of utensils and tools, and second, to secure information concerning the other equipment and supplies teachers wish to store in the unit kitchen.

The plan for the study was to secure the cooperation of high school homemaking teachers who were asked to arrange a unit kitchen and equip it with the Dougherty Utensil List. They were asked to use this equipment for preparing five meals and to check the utensils on a list furnished them. They were further requested to state their judgments concerning other articles which should be stored in the unit kitchen.

A description of the check list and its distribution, of the cooperators in the study, and of the methods of analysis used will be discussed in this chapter.

CONSTRUCTION OF THE CHECK LIST

For the purposes of this study, the questionnaire method was used. This was supplemented by a check of the number of times each utensil was used in the preparation of meals. This necessitated the construction of a check list.

First, a tentative form was set up. Samples of this form were sent for checking to the twelve home economists who worked with the Home Economics Education Service Staff of the U. S. Office of Education as members of the committee on space and equipment called by the United States Office of Education, December, 1944.⁽¹⁾ These home economists represented heads of college home economics departments and of teacher-training departments, state and city supervisors of home economics, and specialists in management and equipment. This committee offered constructive criticisms which were incorporated into the study.

The revised check list was divided into three parts: Part I, to determine the number, size and type of utensils, china, glass and silver which were needed in serving meals; Part II, to determine the food supplies

1. Space and Equipment for Homemaking Instruction, by Amidon, Edna, Journal of Home Economics, March, 1945.

desirable to store in a unit kitchen; and Part III, to determine other items desirable to store in the unit kitchen. (1)

In Part I, it was desired to determine just what utensils and tools were actually used by four girls in the preparation of meals. In order to secure comparable working conditions in the schools used for this study, the following assumptions were made: (1) that cooking utensils, china, glass and silver needed for preparing and serving a meal for four girls would be stored in the unit kitchen, (2) that food preparation would be taught on the meal basis, and (3) that other utensils needed for occasional use and of which there would be fewer than one for each unit kitchen would be stored elsewhere in the homemaking room.

The teachers were asked to arrange a unit kitchen to meet the requirements specified, to remove all present equipment, and to replace it with the items specified on the Check List. (The Dougherty list of utensils and tools to be stored in the unit kitchen was used. The two pieces of canning equipment were omitted from the list of utensils since they would not be used in the preparation

1. See Appendix, page ix, for complete Check List.

of meals.) If the teachers could not obtain any utensil listed, they were to cross out that utensil and write in a substitution if they desired one. The teachers were then to have four girls prepare and serve five meals using these utensils. The menu for each meal was to be recorded on the Check List. After each meal, each utensil was to be checked as used or not used in the preparation of that meal. Any additional equipment used was to be written in at the end of the list. After recording the utensils used in preparing the five meals, the teachers were asked to make a decision concerning each utensil or its substitute. They were to indicate whether they wished to include the utensil, omit it, or modify the size or the number of utensils that should be included. A list of all china, glass, and silver used in serving the meals was requested with a final decision as to their inclusion in a unit kitchen.

To determine the food supplies desirable to be stored in the unit kitchen, the teachers were asked to list the staples and the approximate amounts to be stored and to list the foods other than staples to be stored. The list was not to be limited to food supplies stored during the five meals checked, but also was to represent, in the opinion of the teachers, the most desirable practices for day to day storing of food supplies in normal times. It

was assumed that there would be other food storage in the same room in which the unit kitchen is located.

To determine what additional items teachers thought it desirable to store in the unit kitchen, a list of linens and other items was given on the Check List. The teachers were asked to check this list and to add other items which they wished to store together with the type of storage desired. Suggestions on types of storage for the girls' personal belongings were also requested.

DISTRIBUTION OF THE CHECK LIST

A copy of the Check List accompanied by a letter of explanation⁽¹⁾ was sent to all state supervisors of home economics and to a selected group of city supervisors and teacher trainers. Each leader was asked to indicate her willingness to participate in the study. Check Lists for distribution were then sent to those expressing a desire to participate. Each home economics educator, in turn, sent the check lists to selected teachers in her state. A total of 250 Check Lists were distributed throughout the United States.

1. See Appendix, page iv, for letter of explanation sent to state supervisors and other home economics leaders.

SELECTION OF CHECK LISTS TO BE USED

As the Check Lists were returned, they were divided into four regions: Central, North Atlantic, Pacific and Southern. In all, 116 Check Lists were returned. Thirty-three of these were from the Central region, 32 from the North Atlantic, 27 from the Pacific, and 24 from the Southern region.

Each Check List was studied carefully and evaluated on the basis of the number of meals served, the completeness of the meals, the adequacy of checking of all parts of the questionnaire, and the number of final decisions given. This evaluation was used as the basis for selecting the twenty-five Check Lists to be used from each region. In the Southern region, of the 23 Check Lists that were used, one Check List of four meals only and one of three meals only were included. All the other regions had twenty-five Check Lists of five meals each: that is, the North Atlantic, Central and Pacific regions tried out the utensil list for a total of 125 meals each and the Southern region for 112 meals, making a total of 487 meals prepared for the study.

Table 1 shows the states in each region that participated in the study and the number of returns used from each state.

TABLE 1

Number of Check Lists Used from Each State

Regions							
Central	25	North Atlantic	25	Pacific	25	Southern	23
Illinois	4	Conn.	4	Arizona	4	Alabama	3
Indiana	4	Maryland	1	California	2	Florida	3
Iowa	1	Mass.	1	Idaho	2	Georgia	5
Kansas	2	New Jersey	2	Montana	2	Louisiana	1
Kentucky	1	New York	4	Nevada	5	So. Carolina	2
Michigan	3	Penn.	12	New Mexico	2	Tennessee	3
Minnesota	2	West Va.	1	Oregon	3	Texas	6
Missouri	2			Washington	3		
Nebraska	2			Hawaii	2		
No. Dak.	1						
Wisconsin	3						

DESCRIPTION OF COOPERATORS

On the first page of the questionnaire, the teacher was asked to give the name of the school, the type of school, her name, the grade level and size of the class in which the experiment was carried on, and the length of the class period.

For determining the degree to which the study represented a variety of situations, the investigator thought it advisable to compile data concerning the type of school, the grade level, the size of class, and the length of the class period.

Types of Schools

The Check Lists were studied for types of schools listed. Table 2 shows the types of schools represented by the 98 schools participating in the study.

TABLE 2
Types of Schools

Type	Total	Regions			
		Central	North Atlantic	Pacific	Southern
High Schools					
Four-year	51	14	7	16	14
Junior	12	1	5	4	2
Junior and Senior	7	2	4	--	1
Grade and high school	4	1	3	--	--
Vocational school	9	3	3	2	1
College and high school	5	2	--	--	3
No data	5	1	2	1	1

From Table 2 it will be observed that all types of schools were represented from grade and high school combinations to college training schools. The largest group, as would be expected, was the four-year high school. This group totaled 51 out of the 98 schools represented. The junior-high and senior-high school groups combined accounted for an additional 24 schools.

Grade Levels

In compiling the data on the grade level of the classes participating in the study, the investigator listed each grade that was mentioned on the Check Lists. For example, a teacher may have reported that the experiment was carried on in a ninth and tenth-grade class. In this case, a tally was given for each grade level, one for ninth and one for tenth. By this method of recording, a count was obtained of every grade in which the experiment was carried on which showed a total of 137 grades represented in the 98 schools from which questionnaires were received. Table 3 shows the data concerning the grade levels of the classes participating.

TABLE 3
Grade Levels

Grade Level	Total	Central	Regions		
			North Atlantic	Pacific	Southern
Seventh	1	--	1	--	--
Eighth	12	4	4	--	4
Ninth	37	10	11	10	6
Tenth	35	13	6	11	5
Eleventh	20	6	3	7	4
Twelfth	17	5	4	6	2
No data	15	2	3	4	6
Total	137	40	32	38	27

From the above table, it can be seen that this study represents a wide distribution of the grade levels of the classes carrying on the experiment. The ninth and tenth grades with 37 and 35 each, were the most common grade levels reported. The inclusion of the other grade levels would indicate that the study provides a fair sampling of all grade levels that use a homemaking department.

Size of Classes

The present study was set up on the premise that four girls would be working together in each unit kitchen. Realizing that the size of the class is a factor in determining the amount of equipment and storage facilities, this information was requested on the check sheet. Table 4 gives the distribution of the cooperators according to the size of the class participating in the study.

TABLE 4
Size of Classes

Size of Class	Regions									
	Total		Central		North Atlantic		Pacific		Southern	
	No.	%	No.	%	No.	%	No.	%	No.	%
Fifteen or less	23	23.5	8	32.0	8	32.0	4	16.0	3	13.0
Sixteen to twenty	24	24.5	6	24.0	9	36.0	1	4.0	8	34.8
Twenty-one to twenty-nine	22	22.5	6	24.0	2	8.0	9	36.0	5	21.7
Thirty or more	6	6.1	1	4.0	--	--	3	12.0	2	8.7
No data	23	23.5	4	16.0	6	24.0	8	32.0	5	21.7
Total	98	100.0	25	100.0	25	100.0	25	100.0	23	99.9

It can readily be seen from Table 4 that there is a wide range in the size of the classes represented. No one size stands out as typical; however, 47 per cent of the classes are 20 or smaller. Although there seems to be a slight regional difference (the Pacific and Southern regions show a tendency toward larger classes), the difference is negligible as far as this study is concerned.

Length of Class Periods

The length of the class period is an important factor in determining the methods by which foods classes are taught. Table 5 shows the distribution of the 98 cooperators according to the length of class period.

TABLE 5

Length of Class Periods

Length of Class Period	Regions									
	Total		Central		North Atlantic		Pacific		Southern	
	No.	%	No.	%	No.	%	No.	%	No.	%
40-52 min.	13	13.3	2	8.0	5	20.0	4	16.0	2	8.7
55-60 min.	42	42.9	12	48.0	2	8.0	12	48.0	16	69.5
80-100 min.	29	29.6	8	32.0	14	56.0	4	16.0	3	13.0
115 min. or over	13	13.3	3	12.0	4	16.0	4	16.0	2	8.7
No data	1	1.0	--	--	--	--	1	4.0	--	--

The above table shows that the largest group reported a 55 to 60 minute period, which, although not long, is sufficient time for teaching on the meal preparation basis. An equal number of classes had a longer time than one hour; a total of 42 cooperators reported the longer period. The 13 cooperators having 52 minutes or less of class time probably experienced some difficulty in preparing and serving meals.

Summary

An analysis of the data concerning the cooperators in the study indicates a wide range of situations. The types of schools represented varied from grade- and high-school combinations to college training schools. The four-year high school comprised the largest group with 51 of the 98 schools in this category.

Grade levels in which the experiment was carried on showed a wide distribution. The ninth and tenth grades were the most commonly reported. The size of the class of those participating in the study varied from 15 or less to 30 or more. Twenty-three teachers reported 15 or fewer members in the class; 24 teachers reported having 16-20; 22 teachers reported 21-29 members, and six teachers had 30 or more. The length of the class period varied from 40

minutes to 115 minutes or over. Forty-two teachers reported a class period of 55-60 minutes, with an equal number reporting more than 60 minutes. This wide range of situations tends to eliminate the danger of the weighting of figures caused by a less varied group of participants.

DESCRIPTION OF THE 487 MEALS SERVED

Each menu was studied and evaluated for three factors: First, did the menu represent an adequate, complete meal? Second, how many cooking processes were involved in preparing that meal? Third, what types of cooking processes were most commonly used?

Adequacy of Meals

Each of the 487 menus were classified either as a breakfast or as a main meal: lunch or dinner. If the menu consisted of only one or two foods it was classified as an incomplete meal.

To evaluate the menus for adequacy, a nutritionist suggested, as a crude measure, that each of the following foods be given a point value of one: protein, cereals or bread, milk, leafy green or yellow vegetable, other vegetables--potatoes, and one or more servings of fruit.

Using this device the menus were evaluated as to the number of points. In nearly every case in which the menu scored more than six points, credit was given for an additional vegetable. Table 6 shows the summary of the data compiled on the evaluation of the 487 meals served.

TABLE 6
Adequacy of the 487 Meals Served

BREAKFAST	Regions				
	Total	Central	North Atlantic	Pacific	Southern
<u>No. of Points</u>	(75)	(25)	(21)	(5)	(24)
Less than four	24	9	8	1	6
Four	49	15	13	4	17
Five or more	2	1	--	--	1
LUNCH OR DINNER					
<u>No. of Points</u>	(388)	(98)	(94)	(110)	(86)
Less than four	48	10	21	10	7
Four or five	249	57	63	70	59
Six	78	26	10	24	18
Seven or more	13	5	--	6	2
INCOMPLETE MEAL	24	2	10	10	2
Total	487	125	125	125	112

A study of the foregoing table reveals the adequacy of the 487 meals prepared in foods classes. A breakfast was considered adequate if it contained four of the six points listed on the scoring device; a lunch or dinner needed to contain six points. Fifty-one of the 75 breakfasts prepared were rated as adequate or better. This was a fairly good showing on the types of breakfasts served. The lunches and dinners served rated not as high, however. There were 388 main meals prepared, with only 81, or slightly more than one-fourth of these, rating six points which were considered adequate from the standpoint of the rating device. The largest number, 249 meals, rated four or five points. If the fact is taken into consideration that many of these meals were lunches or suppers, then their assumed inadequacy is not justifiable. For example, the following menu rated four points:

Spaghetti and Meat Balls (1)

Vienna Bread (2) Lettuce and Tomato Salad (3)

Caramel Pudding

Milk (4)

This menu received one point each for protein, bread, leafy green or yellow vegetable, and milk. To have rated six points as an adequate main meal, it should have included another vegetable and a serving of fruit. However,

there is no doubt that the menu prepared was a well-balanced meal.

The evaluation of the meals proved that the majority of the meals prepared for the study were complete meals and were well balanced nutritionally.

Number of Cooking Processes

As another check on the meals prepared and the validity of the use of the utensil list, the menus were scored on the number of different cooking processes involved in the preparation of that meal. For example, in the following dinner menu, five different cooking processes were involved:

Meat Loaf (1)

Scalloped Potatoes (2) Fresh Peas (3)

Biscuits (4) Apple Butter

Strawberry Shortcake (5)

Such processes as might be involved in the preparation of relishes, fillings for sandwiches, and separate ingredients in salads were disregarded. Only main cooking processes were included. Where there was any doubt as to the number of processes involved in the preparation of a dish, the assumption was made that the simpler preparation was used. For example, if pea soup was listed, it was assumed

that canned peas were used and not fresh peas which would have to be pre-cooked. Table 7 shows the rating of the 487 meals according to the number of different cooking processes involved.

TABLE 7
Number of Cooking Processes

No. of Processes	Regions				
	Total	Central	North Atlantic	Pacific	Southern
BREAKFAST	(75)	(25)	(21)	(5)	(24)
Two	10	3	2	--	5
Three	26	9	8	3	6
Four	31	9	9	2	11
Five or more	8	4	2	--	2
LUNCH OR DINNER	(388)	(98)	(94)	(110)	(86)
Two	17	6	2	5	4
Three	77	16	21	30	10
Four	118	28	43	29	18
Five	89	30	15	24	20
Six	56	13	10	17	16
Seven	24	3	3	3	15
Eight or more	7	2	--	2	3
INCOMPLETE MEALS	24	2	10	10	2
Total	487	125	125	125	112

The more cooking processes involved in preparing a meal, the more utensils would be needed. Table 7 shows that three or four different cooking methods were most common for the preparation of the breakfast menus listed. Four processes were most frequently used in the preparation of the main meals (118 menus), but 139 menus included five to seven processes. Most of the menus listed could have been prepared by using from four to six cooking methods.

Methods Used in Preparing Dishes

What specific foods were most frequently prepared and what methods were used in their preparation? Each food listed on the menus was first classified according to the kind of food--meat, eggs, vegetable, casserole without meat. These classifications were then divided into the method used in preparation. For example, the meat dishes were creamed, fried, oven-cooked, meat loaf, or in casserole.

A compilation of these data⁽¹⁾ showed that vegetables led the list in frequency of preparation with 478 or about one-fifth of all the foods prepared being included in this classification. Approximately one-half of the vegetable

1. See Appendix, Table III, Methods Used in Preparing 2237 Dishes, for complete data.

dishes mentioned involved a cooking process: boiling, steaming, or oven-cooking. Buttered vegetables were most frequently listed which indicated that a sauce pan was the most commonly used utensil in the preparation of vegetables. Mashed, creamed, and parsleyed potatoes would increase the need for sauce pans.

Many hot breads, muffins, popovers, biscuits, and rolls were prepared. These would necessitate the inclusion of pans for baking these items.

Meat loaf was the most popular meat dish prepared by the cooperators. Other methods of oven-cooking: baking, roasting, broiling, accounted for the largest number of meat dishes, but meat loaf, as such, was mentioned three-fourths as many times. The meat loaf may have been prepared in a casserole, or one of the baking pans may have been used. A skillet with a lid might have been the utensil used for the oven-cooked meats as well as for the number of meats, chickens, and fish that were fried. The fried and scrambled eggs and omelets included in 35 menus may have used this utensil, also.

A casserole dish might have been used for the preparation of 18 casserole meat dishes and 58 casseroles without meat. This utensil may also have been used for baked eggs, casserole fish dishes, cheese fondue, baked

beans, scalloped or au gratin potatoes, baked fruit, and for many of the desserts.

Desserts included such dishes as cakes and gingerbread, cookies, custards, puddings, pastries, cobblers, and gelatine desserts. The order of listing these dishes indicates the order of frequency of preparation. It is interesting to note that the Central region prepared more desserts than did the other three regions.

Summary

The survey of the 487 meals served showed that the majority of the menus were complete and well-balanced. Four cooking processes were included in most of the breakfast menus and from four to six processes in the main meals prepared. A variety of methods were used in the preparation of the 2237 dishes prepared: boiling, steaming, baking, frying, creaming. These data would indicate that the 487 meals prepared an adequate basis for checking the utensil list.

METHODS OF ORGANIZATION OF DATA

Utensils and Tools

In compiling the data on the check list of utensils and tools used by four girls in preparing and serving five meals, a table was constructed for each region on which the following information was tallied for each utensil and tool on the original list or for a substitution written in by the teacher: (1) the number of teachers who crossed out the utensil, (2) the number of teachers who had the utensil available for the experiment, (3) the number of meals in which the utensil was used, (4) the number of meals in which the utensil was not used, (5) the number of teachers who gave no decision concerning the utensil, (6) the number who decided to include the utensil, (7) the number who decided to omit the utensil, and (8) the number who wished to modify the specifications, indicating the preferred number that should be included. At the end of the table, all utensils that were added by the teachers were listed and tallied.

From these four regional tables a master table was constructed to show the percentage of schools in which the utensil was not available, the percentage of meals in which the utensil was used, and the number and percentage of decisions made by the teachers.

The percentage of schools in which the utensil was not available was obtained from the information on the original table which showed the number of teachers crossing out the utensil. For example, in the case of the one-pint sauce pan, one teacher in the Central region crossed out this utensil. Since there were 25 teachers participating in the study from that region, it was recorded that four per cent of the teachers in the Central region reported this utensil as not available⁽¹⁾ and 96 per cent had a pint sauce pan available which might or might not have been used in the meals prepared.

The percentage of meals in which the utensil was used was computed by dividing the number of meals in which a specified utensil was used by the total number of meals in which the utensil or its substitute was available. For example, again in the case of the pint sauce pan, it was available in 24 schools in the Central region and might have been used in the 120 meals served in these schools. However, the facts were that this pint sauce pan was used in only 47 meals. A substitute, a three-to-six cup sauce pan was used in 21 meals, and a second substitute, a two-to-three and one-half quart

1. See Appendix, Table I, Percentage of Utensils That Were Not Available.

sauce pan was used in five meals. Forty-seven, the number of meals in which a one-pint sauce pan was used, divided by 120, the number of meals in which a one-pint sauce pan or its substitute was available, gives 39.2 as the percentage of the meals served in the Central region, in which the one-pint sauce pan was used. In Chapter III, Table 8, Percentage of Meals in Which Utensils Were Used by 98 Cooperators is based on the percentages compiled by this method and recorded on the master table.

The master table showed the decisions of the 98 teachers as to inclusion, omission, or modification of each specified utensil. Percentages were based on the number of teachers making decisions concerning each utensil, and therefore the percentages vary with each utensil. To use the same illustration of the one-pint sauce pan, in the Central region 24 teachers gave a decision. Of the 24 teachers, the master table showed that 58.3 per cent (or 14 of the 24 teachers) wished to include a one-pint sauce pan, 12.5 per cent (three) to omit a one-pint sauce pan, 25 per cent (six) to include a three-to-six cup sauce pan, and 4.1 per cent (one) to include a two-to-three and one-half quart sauce pan. For the four regions were totaled the number and percentage of teachers giving decisions and the percentage of teachers wishing to include or omit each utensil or its substitute.

Table 9, The Percentages of 98 Teachers Who Decided to Include Specified Utensils, was constructed from these data. This table and its analysis will be found in Chapter III.

Additions

Many of the teachers added utensils at the bottom of the check list that were used in the preparation of the meals or that they wished included in the unit kitchen. These utensils were listed and tallied on the four regional tables. These data were analyzed for the number of tallies for each utensil. All utensils recorded by ten or more teachers were included in Table 10, Additional Utensils Listed by Ten or More Teachers, which will be discussed in the next chapter.

Modifications

The teachers were asked to indicate in the decisions column of the utensil checking sheet any modifications they desired for each utensil. If they wished a different size than the one they had used in the preparation of the meals, they were to indicate in this column the size desired. A study of the Check Lists showed that two types of modifications were given. Some teachers wished

an additional size beside the one given on the original list. These were treated as additions in the compilation of data. The other type of modification was an increase or decrease in the number of the specific utensil to be included. (For example, some teachers wished one muffin pan in place of the two given on the Check List.) These number modifications were tabulated on the four regional tables. These data were then compiled into a table, Number of Utensils Teachers Wished to Modify as to Number,⁽¹⁾ which includes only the utensils that ten or more teachers wished to modify. Significant data from this table will be discussed in Chapter III.

The data on the percentage of teachers who decided to include each utensil, the percentage of times that utensil was used, and the number of teachers who wished to modify the number of that utensil that should be included were used as a basis for determining the utensils that should be stored in the unit kitchen. Table 11 summarizes these data for the recommended list of utensils and tools.

1. See Appendix, Table II, Number of Utensils Teachers Wished to Modify as to Number.

China, Glass, and Silver

There were no specific items of china, glass or silver given on the Check List. The teachers were asked to list the china, glass and silver used in serving the five meals. All of the data on this equipment, then, is based upon the listings of individual teachers.

All china, glass, and silver that were listed by teachers were put on separate cards and tallied according to the number of times mentioned. Three tables were set up for all items listed by five or more teachers in any one region, one for china, one for glass, and one for silver. As this study is primarily for the purpose of gaining information that will be helpful in planning for storage, the china, glass, and silver listed were grouped by sets. Since the unit kitchen was to serve four girls, a set was arbitrarily designated as four to six of a kind.

The china listed by the teachers seemed to belong logically in three categories, plates, dishes for individual service--such as dessert dishes or cups and saucers, and serving dishes.

Plates were grouped into sets of four to six of a kind used by the students in serving meals. Those teachers reporting one set of plates only indicated that they used four to six dinner plates. Two sets included (a) a

set of dinner plates and a set of bread and butter plates or salad plates, (b) a set of luncheon or salad plates and a set of bread and butter plates, or (c) a miscellaneous combination of two sets. Those listing three sets included (a) a set of dinner plates, a set of salad plates, and a set of bread and butter plates, (b) a set of luncheon or breakfast plates, and a set of salad or dessert plates, and a set of bread and butter plates, or (c) other combinations of three sets. Those listing four, five, or six sets of plates were tallied as such. Table 12 gives the final groupings of plates by regions.

Small dishes for individual service, such as cups and saucers, in sets of four to six, and serving dishes, one or two of each, were listed and tallied also. Two final tables were devised, one for dishes for individual service and one for serving dishes. These tables show the number and percentage of teachers listing the china from each region and the total of the four regions. The table for individual service dishes, Table 13, includes information concerning dessert dishes, cups and saucers, soup plates, and cereal bowls. The table on serving dishes, Table 14, gives information concerning such articles as serving bowls, sugar bowls and cream pitchers, salt and pepper shakers, and pitchers.

The method described above for china was also used for glass and silver. The glasses were likewise grouped in sets of four to six of a kind. Teachers did not list more than one set each of juice, iced tea, and sherbet glasses, but frequently recorded two or even three sets of water glasses. Table 15 was devised to show the number of glasses used by the 98 cooperators in serving the meals.

Table 16, Silver Used in Serving Meals, was devised to indicate the amount of silver used in serving the 487 meals. The sets, of which there were four to six each, were knives and forks, teaspoons, iced tea spoons, salad forks, soup spoons, and bread and butter knives. Only one or two of such items as tablespoons, butter knives and sugar shells were reported as used.

Staple Foods

The purpose of this section of the questionnaire was to determine what food supplies teachers considered it desirable to store in the unit kitchen. These were not to be limited to the supplies that were needed in the five meals prepared for the experiment, but were to include those additional supplies which the teacher thought most desirable to be stored in the unit kitchen in normal times. Flour, sugar, and salt were listed on

the Check List. Teachers were asked to give the approximate amounts of these items to be stored and any additional staple items they listed.

As storage depends greatly upon the number of different items to be stored as well as upon the amounts of each item, the check lists were studied for this information. Table 17 was made showing the number and percentage of teachers by regions who desire three or four items, five or six, seven or eight, or more than eight items of staple foods stored in the unit kitchen.

Since it is desirable to know what specific staple items should be stored in the unit kitchen, Table 18 was designed to show this information. All staples mentioned by any teacher were listed, but only those reported by ten or more teachers were included in Table 16. In addition to the three staples, flour, sugar, and salt specified on the Check List, ten other items were included, such as baking powder, pepper, spices, soda, flavoring, shortening, cocoa, cornstarch, and vinegar.

Next, the Check Lists were studied for amounts of these staple foods that teachers wished to store. Common groupings for each item were set up in the table and the Check Lists tallied according to the amount of each item to be stored.

The final table, Table 19, shows the amounts of flour, sugar, salt, baking powder, pepper, spices, soda, flavorings, shortening, and cocoa which teachers desired to store, and the number and percentage of teachers from each region listing each amount.

Foods Other Than Staples

The teachers were asked to list all foods other than staples they wished to store in the unit kitchen. These foods were listed by regions, and the number of teachers mentioning each food was tallied. However, since only one item was mentioned more than eight times, no table was made concerning the storage of foods other than staples.

Linens and Other Items

The questionnaire listed dish cloths, dish towels, hand towels, holders, lunch cloths, tablecloths, cloth napkins, paper napkins and place mats as items which teachers might wish to store in the unit kitchen. Teachers were asked to draw a line through any item they did not wish to store. For all items they did wish to store, they were asked to give the number to be stored and the desired type of storage. The Check Lists were tabulated for the number of each item desired, and

Table 20 was constructed to show this information. Each item on the check lists was then studied for types of storage desired. Each type mentioned was listed, such as drawer, rack, shelf, etc. Table 21 indicates the types of storage the 98 teachers desired for linens and similar articles, and Table 22 lists the dishwashing supplies needed.

The girls' personal belongings and what to do with them are an ever-present problem in a homemaking department. The teachers were asked, "Should a girl's notebook and textbooks be stored in a unit kitchen while she is working there?" And "Should a girl's purse likewise be stored?" These answers, "Yes" or "No", were tabulated. If the teachers answered "Yes", they were asked to give suggestions concerning the types of storage. These suggestions were listed and tallied by regions. These data may be seen in Table 23, Storage of Personal Belongings.

SUMMARY

To learn what equipment teachers desire to store in the unit kitchen, a Check List was devised. Two hundred fifty of these Check Lists were sent to home economics leaders in the United States who in turn distributed them among their teachers. Ninety-eight of the returned Check Lists were used in the study. These Check Lists were divided into four regions: Central (25), North Atlantic (25), Pacific (25), and Southern (23). A total of 487 meals were prepared and served by these 98 cooperators.

Data concerning the number of utensils that were available for use in preparing meals, the number of times each utensil was used, and the decisions made by the teachers concerning each utensil were tallied on four regional tables. A master table which combined the information of the four regional tables was then constructed. From this master table, Table 8, The Percentage of Meals in Which Utensils Were Used by 98 Cooperators, and Table 9, The Percentage of 98 Teachers Who Decided to Include Specified Utensils, were made. All utensils added by ten or more teachers were tallied and made into Table 10. All modifications of size recommended in the decisions column of the Check List were

treated as additional utensils. Modifications concerning the number of specific utensils to be included were tallied on the original tables and the data made into Appendix Table II, Number of Utensils Teachers Wished to Modify as to Number. Data used in determining a recommended list of utensils and tools was compiled in Table 11, Summary of Data on Recommended Utensils and Tools.

All china, glass, and silver listed by the teachers were compiled into tables. Plates, dishes for individual service, glasses, and most of the silver were treated in sets of four to six of a kind. Table 12, Plates, Table 13, Individual Service Dishes, Table 14, Serving Dishes, Table 15, Glass, and Table 16, Silver were constructed to show by regions the amount of this equipment that was used in serving the 487 meals.

Data on staple foods were compiled to show three things: the number of different staple items to be stored, the specific items of staple foods teachers wish stored, and the amount of each staple food to be stored. Tables 17, 18, and 19 were constructed for this purpose.

Table 20 was designed to show the information the teachers gave concerning items of linen and similar articles and the number of each item teachers wished to store in the unit kitchen. To indicate the type of

storage the teachers thought was desirable for each item, Table 21 was made. Table 22 lists the dishwashing supplies needed in the unit kitchen.

Should a girl's books and purse be stored in a unit kitchen while she is working there? Table 23, Personal Belongings, shows the number of teachers who believe some provision should be made in the unit kitchen for storage of these items and lists the types of storage suggested by these teachers.

All of these tables will be presented and analyzed in the following chapter.

CHAPTER III

ANALYSIS OF DATA

The teaching of food preparation on the meal basis necessitates a unit kitchen for each four girls. This unit kitchen must be supplied with the necessary utensils, tools, and other equipment needed for preparing and serving a meal in as nearly a home-like situation as possible.

What equipment is necessary? An analysis of the data compiled from the 98 Check Lists should give this information. By the methods described in Chapter II, these data were compiled into tables. In this chapter, these tables will be analyzed and discussed with the purpose of making recommendations concerning equipment which should be included in a unit kitchen.

For convenience of analysis, this chapter is divided into four sections:

Part I: Utensils and Tools.

Part II: China, Glass, and Silver.

Part III: Staples and Other Food Items.

Part IV: Linens, Dishwashing Supplies, and
Personal Belongings.

PART I: UTENSILS AND TOOLS

Since the utensils and tools used in preparing foods are the most important items to be stored in a unit kitchen from the standpoint of usage and amount of storage space needed, they will be considered first. By utensils and tools is meant all of the small equipment needed in all of the preparation and cooking processes of the foods to be served.

The techniques by which were tabulated the data given on the 98 Check Lists concerning the utensils and tools used in the preparation of the 487 meals were explained in Chapter II; four tables were evolved from these data to show the number of times each utensil or tool was used, the number of teachers deciding to include each utensil or tool, the modifications of number of each utensil desired, and the additional utensils teachers listed.

Before the tables are analyzed, however, it is necessary to define the terms "available" and "not available." On the original questionnaire, the teacher was asked to cross out any utensil that she was not able to secure. Any item that was crossed out was classified as "not available." There may have been any one of several reasons why any item was not available. One of these

may have been the difficulty of securing utensils during the period of shortages. Or, perhaps the teacher did not have a particular utensil in her department, could not borrow it, and felt that the expense involved was too great to purchase it for this experiment. Another reason for crossing out a utensil may have been that the teacher herself was not acquainted with the use of that particular utensil and, because she did not have it in her department, crossed it out. All items that were not crossed out on the Check List were classified as "available"; that is, they were in the unit kitchen and could have been used in the preparation of the meals.

Three of the tables on utensils and tools, Table 8, Percentage of Meals in Which Utensils Were Used by 98 Cooperators, and Table 9, Percentage of 98 Teachers Who Decided to Include Specified Utensils, and Table 10, Additional Utensils Listed by Ten or More Teachers, are so interrelated that they will be shown and then analyzed jointly.

Utensils Used in Preparing 487 Meals

The first of these tables shows the percentage of times each utensil, or its substitute, was used by the girls in the preparation of the meals.

TABLE 8*

Percentage of Meals in Which Utensils
Were Used by 98 Cooperators

Utensil	Regions				
	Total	Central	North Atlantic	Pacific	Southern
No. meals served	487	125	125	125	112
(1)	%	%	%	%	%
1 Double boiler					
Upper 1-1/2 qt.					
Lower 2 qt.	48.5	50.0	48.8	44.8	50.5
1 Double boiler					
Upper 1/2 -					
1-1/4 qt.					
Lower 1 -					
1-3/4 qt.	10.2	13.4	8.0	8.0	11.2
(2)					
1 Double boiler					
Upper 2 qt.					
Lower 3 qt.	27.8	31.6	31.3	21.0	27.3
1 Double boiler					
Upper 1 -					
1-1/4 qt.					
Lower 1-2 qt.	4.3	7.4	4.4	--	5.2
(3)					
1 Sauce pan					
1 pt.	40.1	39.2	35.2	36.8	49.1
1 Sauce pan					
3-6 cup	19.2	17.5	27.2	16.8	15.2
1 Sauce pan					
2 - 3-1/2 qt.	2.9	4.2	4.0	3.2	--
(4)					
1 Skillet					
10"	32.4	32.0	30.5	28.7	38.3
1 Skillet					
5, 5-1/4, 6"	1.3	2.4	2.6	--	--
1 Skillet					
8-9"	4.8	4.8	3.5	4.4	6.5
1 Skillet					
14"	0.4	--	--	1.7	--

*Table 8 should read: (1) Double boiler: of the meals prepared in which this double boiler was available, the original utensil was used in 48.5 per cent of the meals in all regions, 50.0 per cent of the time in the Central region, etc. Substitute double boilers were used in 10.2 per cent of the meals.

Utensil	North				
	Total	Central	Atlantic	Pacific	Southern
(5)					
1 Casserole 1-1/2 qt.	30.1	28.0	36.7	30.0	25.8
1 Casserole Less than 1-1/2 qt.	1.5	2.4	1.7	.8	1.0
1 Casserole 1-3/4 - 2 qt.	.8	.8	2.5	--	--
(6)					
1 Muffin pan 6 cups	23.3	22.4	32.8	15.8	22.3
1 Muffin pan 8-9-12 cup	7.5	8.0	8.0	6.7	7.1
(7)					
2 Cake pans Layer 9x9x1-1/2"	10.2	9.6	7.2	12.5	11.3
2 Cake pans Square 6-1/2x8"	1.2	.8	1.6	2.5	--
(8)					
1 Pan 9x9x2-1/2"	18.2	25.5	12.4	16.2	18.8
1 Pan Other sizes	.9	--	.9	--	2.7
(9)					
1 Bread pan 9x5x2-1/2"	15.4	10.4	9.2	12.5	29.4
1 Bread pan Other sizes	.6	--	--	2.5	--
(10)					
1 Large pan Utility tray 13x16x1"	54.0	58.3	51.6	47.3	58.8
Utility tray Other sizes	6.5	3.3	10.5	7.3	4.7
(11)					
2 Pie pans, 5"	10.2	12.0	12.0	10.4	6.5
2 Pie pans, 6-8"	4.8	8.0	3.2	4.3	3.7
(12)					
2 Cooling racks 11x11"	25.9	33.1	26.4	19.1	25.0
2 Cooling racks Other sizes	1.8	--	4.0	.9	2.2

Utensil	Total	Central	North Atlantic	Pacific	Southern
(13)					
4 Custard cups 3/4 cup	23.9	24.8	25.0	24.2	21.5
4 Custard cups 1/2 cup	.4	--	1.7	--	--
(14)					
1 Bowl, 3 qt.	40.9	44.2	34.2	45.0	40.2
1 Bowl, 4-6 qt.	.8	--	--	--	3.1
1 Bowl, 1 pt.	.6	--	2.5	--	--
(15)					
2 Bowls, 2 qt.	63.4	69.6	64.8	56.0	63.3
2 Bowls, 4-6 qt.	2.5	1.6	4.0	2.4	1.8
(16)					
2 Bowls, 1 qt.	56.5	58.4	62.5	56.0	49.1
2 Bowls, 1 pt.	1.3	2.4	--	--	2.7
(17)					
1 Sifter 2-1/2 cup	54.2	49.6	55.7	49.6	61.7
1 Sifter 1-2 cup	3.3	8.8	3.5	.8	--
1 Sifter 3-5 cup	2.0	1.6	--	6.4	--
(18)					
1 Pastry blender	23.7	22.7	26.0	20.0	26.1
(19)					
2 Rotary Eggbeaters	57.1	60.8	64.8	60.0	42.8
(20)					
1 Sieve, 5"	28.8	36.0	17.6	29.6	31.8
1 Sieve, 6-7"	5.0	--	20.0	--	--
(21)					
1 Rolling pin 10"	29.9	28.0	20.0	30.4	41.2
1 Rolling pin 8"	.4	--	--	1.6	--
(22)					
1 Combination Cookie and Biscuit cutter 1-1/2"	22.3	18.4	14.2	24.0	32.7
1 Cookie cutter 2 - 2-1/2"	5.1	.8	.8	--	18.7

Utensil	North				
	Total	Central	Atlantic	Pacific	Southern
(23)					
2 Paring Knives 2-1/2"	69.7	82.6	65.6	65.7	64.8
2 Paring Knives 3"	7.4	--	14.4	3.2	12.0
(24)					
2 Paring Knives 4"	47.5	65.0	41.9	36.7	46.4
2 Paring Knives 3 - 3-3/4"	2.1	--	.9	3.3	4.1
2 Paring Knives 7 - 7-3/4"	--	--	--	--	--
(25)					
1 Knife, 8"	41.8	43.3	29.6	48.0	46.1
1 Knife 7 - 7-3/4"	1.8	2.5	--	4.8	--
(26)					
4 Case forks 4 tines	56.4	59.2	42.6	64.0	59.8
4 Case forks 2-3 tines	3.5	1.6	9.6	--	2.7
(27)					
2 Measuring cups Glass	81.9	94.2	75.7	73.7	83.9
2 Measuring cups Metal	5.1	--	16.5	4.0	--
(28)					
2 Sets measuring Cups, Mary Ann's	63.8	76.9	52.9	53.3	72.2
(29)					
4 Tablespoons	83.3	85.8	79.2	88.0	80.3
(30)					
4 Teaspoons	60.9	60.0	70.0	64.0	49.5
(31)					
2 Measuring Spoon sets	90.2	98.3	81.0	88.8	92.8
(32)					
4 Case knives	50.7	52.8	65.5	34.4	50.0

Utensil	Regions				
	Total	Central	North Atlantic	Pacific	Southern
(33)					
1 Spatula 7"	44.6	52.0	46.4	43.3	44.7
1 Spatula 6 - 6-3/4"	3.1	--	8.0	1.7	2.7
(34)					
1 Spatula 4"	31.0	38.6	35.4	17.0	33.0
1 Spatula 3-5-6"	3.8	5.7	1.5	7.0	1.0
(35)					
2 Wooden spoons 13"	52.5	60.0	63.2	45.6	41.1
2 Wooden spoons 7 - 8-1/2"	2.9	4.0	--	4.0	3.7
2 Wooden spoons 10-12", 14"	4.1	6.4	0.8	7.2	1.8
(36)					
2 Dish pans	87.8	78.2	86.9	89.7	96.3
(37)					
1 Tray 12x15x1/2"	55.6	60.0	50.8	60.0	51.4
1 Tray Other sizes Rectangular	6.8	8.7	12.5	0.9	4.9
1 Tray 13" round 14" round Oval	2.6	8.7	--	1.8	--
(38)					
1 Salt shaker 1/2 cup	79.1	87.5	75.7	77.5	75.7
(39)					
1 Vegetable Brush	43.1	36.8	42.7	45.0	48.0
(40)					
1 Sink strainer	77.8	73.7	82.8	68.3	86.5
(41)					
2 Rubber Scrapers	60.2	73.7	38.7	62.5	66.0

The number of times specific utensils or tools are used in the preparation of meals is important data in determining the number of utensils and tools to be stored in a unit kitchen. The value of an item that is used very few times should be weighed carefully before its inclusion in each kitchen. However, factors other than actual use of the utensil in the five meals of the study must be considered. Is it a utensil that is essential in a specific process and not used many times during the year, yet a very necessary utensil when that process is included in the lesson? The bread pan might be an example of this. The fact that the girls using the utensils were not aware of the uses of a specific tool may have been another factor in accounting for the small percentage of uses of some items.

Decisions of Teachers Concerning Utensils

The factors which influence the use of a utensil and other factors were probably considered by the teachers in making their decisions whether each utensil or tool should be included in the unit kitchen. The following table shows the percentages of 98 teachers who decided to include each utensil or its substitute.

TABLE 9*

Percentage of 98 Teachers Who Decided
To Include Specified Utensils

Utensil	Regions				
	Total	Central	North Atlantic	Pacific	Southern
No. decisions	(85)	(23)	(23)	(19)	(20)
(1)	%	%	%	%	%
1 Double boiler					
Upper 1-1/2 qt.					
Lower 2 qt.	81.2	82.6	78.2	78.9	85.0
1 Double boiler					
Upper 1/2 -					
1-1/4 qt.					
Lower 1-2 qt.	16.8	13.0	18.1	21.0	15.0
No. decisions	(70)	(19)	(22)	(14)	(15)
(2)					
1 Double boiler					
Upper 2 qt.					
Lower 3 qt.	66.5	73.6	68.1	64.3	60.0
1 Double boiler					
Upper 1 -					
1-1/4 qt.					
Lower 1-2 qt.	6.9	5.2	9.0	--	13.3
No. decisions	(88)	(24)	(24)	(19)	(21)
(3)					
1 Sauce pan					
1 pt.	61.6	58.3	54.1	57.8	76.2
1 Sauce pan					
3-6 cup	30.5	25.0	41.6	31.5	23.8
1 Sauce pan					
2 - 3-1/2 qt.	3.4	4.1	4.1	5.2	--
No. decisions	(84)	(25)	(20)	(18)	(21)
(4)					
1 Skillet, 10"	82.9	88.0	70.0	83.3	90.5
1 Skillet					
5, 5-1/4, 6"	3.2	4.0	10.0	--	--
1 Skillet, 8-9"	10.9	8.0	15.0	11.1	9.5
1 Skillet, 14"	1.4	--	--	5.5	--

*Table 9 should read: (1) Double boiler: of 98 teachers reporting, a total of 85 teachers gave a decision as to whether they wished this item included or omitted. Of these 85 teachers, 81.2 per cent decided to include the original utensil and 16.8 per cent decided to include a smaller size. This makes a total of 98.0 per cent of the teachers giving a decision who wanted this item included in the final list. The regional data are to be interpreted in the same manner.

Utensil	North				
	Total	Central	Atlantic	Pacific	Southern
No. decisions	(87)	(25)	(23)	(19)	(20)
(5)					
1 Casserole 1-1/2 qt.	84.2	84.0	78.2	89.4	85.0
1 Casserole Less than 1-1/2 qt.	7.1	4.0	4.3	5.2	15.0
1 Casserole 1-3/4 - 2 qt.	3.2	4.0	8.6	--	--
No. decisions	(87)	(25)	(24)	(17)	(21)
(6)					
1 Muffin pan 6 cups	80.1	80.0	91.6	82.3	66.6
1 Muffin pan 8-9-12 cup	17.6	20.0	4.1	17.6	28.6
No. decisions	(86)	(25)	(24)	(18)	(19)
(7)					
2 Cake pans Layer 9x9x1-1/2"	78.6	84.0	62.5	88.8	78.9
2 Cake pans Square 6-1/2 - 8"	9.3	4.0	16.6	11.1	5.3
No. decisions	(76)	(21)	(20)	(15)	(20)
(8)					
1 Pan 9x9x2-1/2"	67.4	76.1	45.0	73.3	75.0
1 Pan Other sizes	7.9	--	10.0	6.6	10.0
No. decisions	(84)	(23)	(23)	(18)	(20)
(9)					
1 Bread pan 9x5x2-1/2"	65.5	82.6	52.1	72.2	55.0
1 Bread pan Other sizes	7.6	--	4.3	11.1	15.0
No. decisions	(77)	(24)	(17)	(17)	(19)
(10)					
1 Large pan Utility tray 13x16x1"	76.3	79.1	64.7	82.3	78.9
Utility tray Other sizes	9.2	8.3	11.7	11.7	5.3

Utensil	North				
	Total	Central	Atlantic	Pacific	Southern
No. decisions	(83)	(25)	(21)	(17)	(20)
(11)					
2 Pie pans, 5"	64.9	60.0	52.3	82.3	65.0
2 Pie pans 6-8"	21.9	32.0	23.8	11.7	20.0
No. decisions	(83)	(23)	(24)	(17)	(19)
(12)					
2 Cooling racks 11x11"	89.2	100.0	79.1	88.2	89.4
2 Cooling racks Other sizes	8.7	--	12.5	11.7	10.6
No. decisions	(87)	(25)	(24)	(18)	(20)
(13)					
4 Custard cups 3/4 cup	89.9	92.0	83.3	94.4	90.0
4 Custard cups 1/2 cup	4.7	--	8.3	5.5	5.0
No. decisions	(83)	(24)	(22)	(18)	(19)
(14)					
1 Bowl, 3 qt.	83.9	91.6	81.8	88.8	73.6
1 Bowl, 4-6 qt.	2.7	--	--	--	10.6
1 Bowl, 1 pt.	1.1	--	4.5	--	--
No. decisions	(88)	(25)	(24)	(18)	(21)
(15)					
2 Bowls, 2 qt.	92.1	96.0	87.5	94.4	90.5
2 Bowls, 4-6 qt.	5.7	4.0	8.3	5.5	4.8
No. decisions	(88)	(25)	(23)	(19)	(21)
(16)					
2 Bowls, 1 qt.	95.6	92.0	100.0	100.0	90.5
2 Bowls, 1 pt.	2.2	4.0	--	--	4.8
No. decisions	(86)	(24)	(22)	(19)	(21)
(17)					
1 Sifter 2-1/2 cup	84.9	79.1	86.3	78.9	95.2
1 Sifter 1-2 cup	7.9	12.5	13.6	5.2	--
1 Sifter 3-5 cup	4.9	4.1	--	15.7	--
No. decisions	(73)	(22)	(19)	(15)	(17)
(18)					
1 Pastry blender	86.5	86.3	78.9	86.6	94.1
No. decisions	(89)	(25)	(24)	(19)	(21)
(19)					
2 Rotary Eggbeaters	100.0	100.0	100.0	100.0	100.0

Utensil	North				
	Total	Central	Atlantic	Pacific	Southern
No. decisions	(88)	(25)	(24)	(18)	(21)
(20)					
1 Sieve, 5"	81.8	88.0	54.1	94.4	90.5
1 Sieve, 6-7"	10.4	--	41.6	--	--
No. decisions	(88)	(25)	(22)	(20)	(21)
(21)					
1 Rolling pin					
10"	96.6	96.0	95.4	95.0	100.0
1 Rolling pin					
8"	1.1	--	--	5.0	--
No. decisions	(88)	(25)	(22)	(20)	(21)
(22)					
1 Combination					
Cookie and					
Biscuit cutter					
1-1/2"	92.1	96.0	77.2	100.0	95.2
1 Cookie cutter					
2 - 2-1/2"	5.6	4.0	13.6	--	4.8
No. decisions	(88)	(23)	(24)	(20)	(21)
(23)					
2 Paring knives					
2-1/2"	90.8	100.0	87.5	90.0	85.7
2 Paring knives					
3"	8.0	--	12.5	5.0	14.3
No. decisions	(78)	(20)	(21)	(18)	(19)
(24)					
2 Paring knives					
4"	80.6	90.0	76.1	72.2	84.2
2 Paring knives					
3 - 3-3/4"	5.3	--	4.7	11.1	5.3
2 Paring knives					
7 - 7-3/4"	1.2	--	4.7	--	--
No. decisions	(85)	(24)	(22)	(20)	(19)
(25)					
1 Knife, 8"	88.4	91.6	77.2	90.0	94.7
1 Knife					
7 - 7-3/4"	4.7	4.1	4.5	10.0	--
No. decisions	(89)	(25)	(23)	(19)	(22)
(26)					
4 Case forks					
4 tines	90.1	96.0	78.2	100.0	86.3
4 Case forks					
2-3 tines	7.6	4.0	21.7	--	4.5

Utensil	Total	North			
		Central	Atlantic	Pacific	Southern
No. decisions	(87)	(24)	(22)	(19)	(22)
(27)					
2 Measuring cups					
Glass	94.1	100.0	81.8	94.7	100.0
2 Measuring cups					
Metal	5.8	--	18.1	5.2	--
No. decisions	(64)	(19)	(15)	(11)	(19)
(28)					
2 Sets measuring					
Cups, Mary Ann's	89.4	100.0	66.6	90.9	100.0
No. decisions	(90)	(24)	(24)	(20)	(22)
(29)					
4 Tablespoons	98.9	100.0	95.8	100.0	100.0
No. decisions	(88)	(24)	(23)	(19)	(22)
(30)					
4 Teaspoons	92.6	87.5	100.0	100.0	90.9
No. decisions	(82)	(25)	(17)	(19)	(21)
(31)					
2 Measuring					
Spoon sets	98.5	100.0	94.1	100.0	100.0
No. decisions	(85)	(25)	(22)	(18)	(20)
(32)					
4 Case knives	94.8	96.0	100.0	83.3	100.0
No. decisions	(89)	(25)	(25)	(18)	(21)
(33)					
1 Spatula, 7"	89.6	96.4	84.0	83.3	95.2
1 Spatula					
6 - 6-3/4"	5.6	--	12.0	5.5	4.8
No. decisions	(61)	(14)	(13)	(15)	(19)
(34)					
1 Spatula, 4"	69.3	78.5	76.9	53.3	68.4
1 Spatula					
3-5-6"	8.2	--	7.7	20.0	5.3
No. decisions	(90)	(25)	(24)	(20)	(21)
(35)					
2 Wooden spoons					
13"	87.8	88.0	87.5	85.0	90.5
2 Wooden spoons					
7 - 8-1/2"	3.4	4.0	--	5.0	4.8
2 Wooden spoons					
10-12"					
14"	8.8	8.0	12.5	10.0	4.8

Utensil	Regions				
	Total	Central	North Atlantic	Pacific	Southern
No. decisions	(82)	(22)	(22)	(16)	(22)
(36)					
2 Dish pans	96.6	90.9	95.4	100.0	100.0
No. decisions	(80)	(23)	(22)	(16)	(19)
(37)					
1 Tray					
12x15x1/2"	81.3	86.9	72.7	81.2	84.2
1 Tray					
Rectangular					
Other sizes	8.5	4.3	18.1	6.2	5.3
1 Tray					
13" round					
14" round					
Oval	2.6	4.3	--	6.2	--
No. decisions	(82)	(24)	(22)	(17)	(19)
(38)					
1 Salt shaker					
1/2 cup	96.5	95.8	95.4	100.0	94.7
No. decisions	(85)	(25)	(22)	(18)	(20)
(39)					
1 Vegetable					
Brush	98.6	100.0	100.0	94.4	100.0
No. decisions	(75)	(22)	(20)	(13)	(20)
(40)					
1 Sink strainer	95.7	95.4	100.0	92.3	95.0
No. decisions	(62)	(20)	(14)	(14)	(14)
(41)					
2 Rubber					
Scrapers	100.0	100.0	100.0	100.0	100.0

Modifications

As was explained in Chapter II, the term "modifications" is used to indicate the decisions of those teachers reporting an increase or a decrease in the number of utensils or tools to be included in the unit kitchen.

There was a total of 223 modifications reported. Of this number, 74 wished to have more of a specific utensil or tool than was given on the original list, and 149 wished to have fewer. There were only six utensils the number of which ten or more teachers agreed to modify. Teachers desired to increase the number of one utensil, a muffin pan, from one to two.

In the case of four utensils: cooling racks, rotary eggbeaters, wooden spoons, and rubber scrapers, the teachers wished to have one of each in place of the two given on the Check List.*

Additions

Any additional utensils or tools used in the preparation of the five meals were listed by the teachers at the bottom of the Check Lists. As these data are very significant, a separate table was made. Table 10 shows the utensils listed by ten or more teachers.

*See Appendix, Table II, for complete data concerning number modification.

TABLE 10

Additional Utensils Listed
By Ten or More Cooperators

Item	Total	Regions			
		Central	North Atlantic	Pacific	Southern
*1 Grater	44	11	9	14	10
1 Cookie sheet	29	6	10	9	4
1 Sauce pan 2-4 qt.	26	8	8	6	4
*1 Lemon squeezer	25	8	5	2	10
*1 Can opener	25	7	5	5	8
*1 Potato masher	22	4	3	8	7
4 Gelatine molds	15	4	5	6	--
1 Sauce pan 3-6 cup	13	4	3	4	2
*1 Pancake turner	13	4	3	4	2
1 Dish rack	13	3	3	3	4
1 Skillet, 4-8"	12	2	6	2	2
*1 Teakettle	10	5	3	1	1
*1 Wire whisk	10	5	3	1	1

*Dougherty General Storage list, see Appendix, page iii.

The data on additional items listed are more significant, in some respects, than those concerning the items on the original list. Had some of these additional utensils been given on the original list, perhaps more teachers would have thought them important enough to include in the unit kitchen. The fact that 44 of the 98 teachers listed a grater would seem to indicate that it should be included in each unit kitchen.

From an analysis of the foregoing tables, a number of important factors of interest can be noted. The data show some significant regional differences in the use of a number of the utensils. The difference between the percentage of meals in which some utensils were used as opposed to the percentage of decisions to include that utensil should be analyzed. Those utensils showing significant data will be discussed individually.

For brevity in the following discussions, the utensil that was included on the Check List will be referred to as the "original", and substitutions written in by the teacher will be called "substitutes."

Double Boilers

Two double boilers were included in the original list to serve as double boilers and also to use each part as a separate sauce pan. In this way, aside from having two double boilers, each unit kitchen would have a one and one-half-quart pan, two two-quart pans, and a three-quart pan. It was evident from this study that many teachers do not favor this practice. One supervisor stated that the girls were not allowed to use the parts of the double boilers as separate sauce pans. Several reasons can readily be seen why this would not seem advisable. In many sections of the country, the hardness of the water would make it impractical to use the lower part for cooking purposes. The design of many double boilers would eliminate their use for other cooking purposes, also. The shape of the lower part, in many instances, makes its use impractical if stirring would be necessary. Many times the top part is rounded on the bottom so that it would be inefficient for use over direct heat. Double boilers designed to be used as separate sauce pans would probably overcome these latter objections.

As can be noted from Table 8, the substitutions for both of the specified double boilers were for smaller sizes. A combination of the substitutions for both double boilers shows that a smaller size than was called for on the original list was used in 14.5 per cent of the meals. Although this figure is less than either the 48.5 per cent of the meals in which the smaller original double boiler was used or the 27.8 per cent in which the larger original was used, perhaps it is significant. It is of interest to note the fact that the first double boiler was used almost twice as often as the second, or larger, double boiler. The larger size was not available in 21.5 per cent of the 98 cases, or in 30.0 per cent of the 23 cases in the Southern region. The teachers who crossed out this utensil may have thought it was too large and did not include it in the study, or they may have wanted only the smaller size.

Of the 85 decisions made concerning the first double boiler, 81.2 per cent, or 69 teachers, wished to include the original and 16.8 per cent wished to have a smaller size. For the second double boiler, however, only 70 decisions were made (21.5 per cent of the teachers reported the utensil as not available). Of these 70 decisions, 66.5 per cent wished to include this size and 6.9 per cent the smaller size. This 66.5 per cent

actually represents only 47 out of the 98 cooperators, or slightly less than half who wished this size double boiler. A smaller size would be preferred by 23.7 per cent.

It would seem from the data pointed out above, that most of the teachers would like to have the first double boiler (upper, one and one-half quart and lower, two quart). The majority would like a second size, but should be given a choice of either a larger or a smaller size.

Sauce Pans

The tables show that the substitutions for the original, or one pint, sauce pan were for larger sizes. This probably is an indication that they did not wish to use the parts of the double boilers for the cooking of vegetables and other purposes for which the one-pint pan would be too small. A larger sauce pan was used in 21.1 per cent of the meals but the one-pint size was used in 40.1 per cent. In other words, of each three cooperators reporting the use of a sauce pan, two reported the use of the one-pint size and one a larger size.

One regional difference stands out in the use of this pint sauce pan. The Southern region reported a more frequent use than did the other regions. Of the meals in

which a sauce pan was used, 49.1 per cent in the Southern region used the one-pint size. This is ten per cent higher than in any other region. From a review of the menus from this region, it was found that they prepared vegetables frequently. This may account for the large percentage of times in which a sauce pan was used. Another possible answer might be that they prepared vegetables in smaller quantities and the pint size was adequate.

A decision concerning the one-pint sauce pan was given by 88 teachers. The original size was desired by 61.6 per cent of the 88 teachers; 30.5 per cent wished to have a three-to-six-cup sauce pan. In the Southern region, 76.2 per cent of the 21 teachers giving a decision wished the pint size.

Twenty-six teachers listed a two-to-four-quart sauce pan in addition to the original list. Thirteen used a three-to-six-cup size. This makes 39 teachers using a larger size in addition to the original one-pint size or its substitutes.

These data indicate that probably a larger sauce pan should be included in addition to the one-pint sauce pan and the double boilers. A choice might be given whether the larger size should be a one-quart sauce pan or a two-to-four-quart size.

Skillet

The data on this utensil showed a fairly consistent use of the ten-inch size given in the original list. A smaller size was used by 6.1 per cent of those using a skillet as compared with 32.4 per cent using the original. The slightly larger percentage in the Southern region can probably be explained by the more prevalent use of fried foods.

Of 84 decisions given concerning the inclusion or omission of a skillet, 82.9 per cent wished to include the original and 14.1 per cent wished a smaller size. This smaller size included skillets ranging in size from five to nine inches.

Twelve teachers listed a four-to-eight-inch skillet as additional equipment desired.

Perhaps a smaller size skillet could be included in the unit kitchen in addition to the ten-inch size by those who desire a smaller size and have the funds and space available for two skillets.

Casserole

The large number of decisions given to include the casserole as compared to the small percentage of meals in which it was used may be explained by the limited purposes

for which this utensil may be used. Although the casserole was used in only 30.1 per cent of the meals, 84.2 per cent of the 87 teachers giving decisions wished to include it. In only four instances was this utensil not available. This would seem to indicate that the one-and-one-half quart casserole is adequate in size and should be included in the unit kitchen.

Muffin Pans

The limited use of this utensil is quite apparent. If the making of muffins and other [REDACTED] breads was not one of the problems of the meals served, this utensil would not be needed. It is interesting to note that the North Atlantic region used a muffin pan twice as often as the Pacific region. Perhaps they prefer this type of utensil for quick breads, or it may have happened that the study was carried on when they were including this type of cookery in their lessons.

Of the 87 decisions given concerning the muffin pan, 80.1 per cent wished to include the original and 17.6 per cent wished an eight-to-twelve-cup size.

The North Atlantic region which reported the most frequent use of this utensil, had the largest percentage (91.6 per cent) wishing to include a muffin pan. The Southern region had only 66.6 per cent of its teachers

who wished this utensil. This may be explained later in their decided preference for the bread pan.

A rather definite decision was given in favor of the six-cup muffin pan. However, teachers might be given a choice if they preferred a larger size. The fact that thirteen teachers reported that they wished to include two muffin pans of the six-cup size is significant. Perhaps the inclusion of two of these utensils would be practical and would accommodate those desiring the larger size.

Cake and Bread Pans

The small percentage of times in which the cake pans and bread pan were used can easily be deduced from the limited purposes of each. Perhaps the decision is of more importance, then, than the usage, in the discussion of these utensils. In the case of the layer cake pans, of 86 teachers giving a decision, 78.6 per cent wished to include and 12.1 per cent wished to omit these cake pans.

Of the 76 decisions given concerning the loaf pan, 67.4 per cent of the teachers wished to include it and 24.7 per cent to omit it. The fact that 11.0 per cent of the teachers crossed out this utensil is significant in that these teachers may not have seen any need for so large a baking pan and did not include it in the study.

Eighty-four teachers gave a decision concerning the bread pan. Of these 84 teachers, 65.5 per cent decided to include and 25.7 per cent to omit the bread pan. Although the Southern region used the bread pan three times as much as any other region, it did not give the largest percentage wishing to include. The Central region had 82.6 per cent of its teachers who wished to include the bread pan while the Southern region had only 55.0 per cent.

The value and use of each of these utensils: the layer cake pan, loaf pan, and bread pan, should be considered very carefully before including them in a list of equipment to be stored in the unit kitchen.

Utility Tray

The utility tray was included in the original list to serve two purposes. The first and most important use was for transporting objects from one part of the foods laboratory to the unit kitchen. In many departments, supplies are kept on a central supply table from which the girls in each unit kitchen get the amounts they need. The use of the utility tray saves steps and needless spilling. From the percentage of times used and the number of cases in which the utensil was not available (11.1 per cent), it is evident that many teachers either do not use this method or all supplies are available in

each unit kitchen.

The other purpose for which the utility tray was intended was as a cookie sheet. As 29 teachers listed a cookie sheet in the additional equipment, the teachers probably did not see the possibility of using the utility tray for this purpose or did not like the combination use.

Seventy-seven decisions were given, with 76.3 per cent of the 77 teachers deciding to include and 14.4 per cent to omit the utility tray.

If the original had stated that this utensil was a utility tray and cookie sheet, would the percentages have been higher?

Pie Pans

From the data given on the tables concerning pie pans, it would seem that it might be feasible to include two sizes of pie pans on a list of utensils for the unit kitchen or to give teachers a choice of either a five-inch size or a larger size. Of the 83 teachers giving decisions, 64.9 per cent of them wished the original and 21.9 per cent wished a six-to-eight-inch size. The teachers reporting that they wished to omit pie pans entirely, 13.2 per cent, probably would keep the pie pans in a general storage cupboard because of their infrequent use.

Cooling Racks

One can understand why the cooling racks were used in only one out of four meals served and still were desired by almost every teacher.

Thirteen teachers indicated that one cooling rack was sufficient. This might indicate a possibility for eliminating one utensil by those on a limited budget.

Pastry Blender

The pastry blender was listed as not available in 15.3 per cent of the cases. Was this because it could not be purchased on the market or because the teacher did not wish to include it since she preferred to have girls use knives? Of the 73 decisions given about whether it should be stored in the unit kitchen, 86.5 per cent wished to have a pastry blender, and 13.2 per cent wished to omit it. There seems to be a question in the minds of a number of teachers of the value of this utensil in the unit kitchen.

Rotary Eggbeaters

The rotary eggbeater was one of the two utensils desired by every teacher making a decision concerning this utensil. Two rotary eggbeaters were on the original list. Twenty-seven of the 98 teachers reported that one

eggbeater would be sufficient; therefore, the number of eggbeaters to be included in a unit kitchen should be considered carefully.

Sifter

The North Atlantic region and the Southern region used the sifter in a slightly higher percentage of the meals than did the other two regions. This is probably in accordance with their more frequent use of the muffin pan and the bread pan. The North Atlantic and Southern regions also gave a higher percentage of decisions to include this utensil. Perhaps those teachers who omitted the sifter used the sieve in its place.

Paring Knives

The smaller (two-and-one-half-inch size) paring knife listed on the check list was almost unanimously included by the 88 teachers giving decisions. There was disagreement on the larger, or four-inch size, however. The larger paring knife was reported as not available by 13.2 per cent of the teachers. This may have been because the teacher did not see the purpose of the larger size or because she could not obtain it. The small percentage of times the knife was used by those who had it might indicate that the girls were not

accustomed to the large size and did not see the advantages of it for chopping and cutting. Decisions were made by 78 teachers concerning the four-inch paring knife. Of this number, 80.6 per cent wished to include it and 12.9 per cent wished to omit this knife.

Mary Ann Measuring Cups

Mary Ann measuring cups are sets of individual aluminum measures for one-fourth, one-third, one-half, and one cup. They are very practical for measuring such ingredients as flour, sugar, and shortening to get an accurate measurement quickly. The fact that 27.2 per cent of the teachers checked this utensil as not available would indicate that either they preferred to use a standard measuring cup or could not obtain the Mary Ann cups on the market. The large percentage of teachers in the North Atlantic region who wished to omit the Mary Ann cups would seem to show a preference there for the standard cup.

Spatulas

There were two spatulas listed on the Check List, a seven-inch size and a four-inch size. The teachers seemed to agree on the seven-inch size, with 80 teachers out of 89 deciding to include it. For the four-inch

size, however, 31.2 per cent of the teachers reported it as not available. Although a four-inch spatula is a useful tool, it is not commonly seen in the stores, and many teachers may not be familiar with its uses. Only 40 teachers of the 98 wished to include it in the unit kitchen. For this reason, perhaps the four-inch spatula might be listed as additional equipment for those teachers who wished to include it.

Case Knives

Of the 85 teachers giving a decision concerning the inclusion of case knives, almost all desired to include them in the unit kitchens. Not all of the teachers were agreed that four case knives were necessary; however, eleven teachers reported that two would be adequate. Four each of case knives, forks, and teaspoons were included on the original list with the assumption that they would be used in the serving of the meals. Many teachers apparently wished to have silver for the serving of meals in addition to that used in the preparation. In this case, two knives may be sufficient.

Wooden Spoons

There seemed to be little doubt in the minds of the teachers that wooden spoons should be included in a unit

kitchen. Ninety teachers gave a decision, and 87.8 per cent of them decided to include wooden spoons. In the modifications, however, ten teachers indicated that they wished to have only one.

Rubber Scrapers

Since 100 per cent of the teachers giving decisions wished to include the rubber scrapers, it would seem probable that the reason that 32.6 per cent of the teachers listed this tool as not available was that it could not be purchased because of the war. Had they been able to obtain rubber scrapers, this percentage might have been very small. Ten teachers reported that one rubber scraper was sufficient for their needs.

Other Utensils and Tools

There were a number of items on the utensil list for which there was agreement by 80 per cent or more of the teachers concerning their inclusion in the unit kitchen. There were no outstanding regional differences either as to use or as to decisions to include these utensils; and there were no significant modifications suggested. The conclusion could be drawn that the following utensils, upon which there was agreement, should be included in the

unit kitchen: four custard cups, one three-quart bowl, two two-quart bowls, two one-quart bowls, one five-inch sieve, one ten-inch rolling pin, one one-and-one-half-inch cookie or biscuit cutter, one eight-inch butcher knife, four case forks, two glass measuring cups, four tablespoons, two measuring spoon sets, two dish pans, one 12"x15"x1/2" tray, one salt shaker, one vegetable brush, and one sink strainer.

Summary

The data from Tables 8 and 9 concerning the number of times each utensil was used and the decisions of the teachers to include that utensil provide a basis for determining a recommended list of utensils and tools to be stored in the unit kitchen.

All but three of the utensils on the Dougherty Utensil List were desired for permanent equipment by 75 per cent or more of the teachers. These three utensils, the loaf cake pan, the bread pan, and the four-inch spatula should be omitted from the list of equipment for the unit kitchen. (See Table 9, page 54, for these data.) There were three utensils, the larger of the two double boilers, the pint sauce pan, and the five-inch pie pans which were included by fewer than 75 per cent of the

teachers. However, the combined percentages for the original and for the substitutions were more than 75 per cent. Provision is made for the teachers to make a choice of the size of these three utensils they prefer. (For example, one sauce pan, one pint, or one sauce pan, one-to-one and one-half quart.)

Where modifications of number were reported by ten or more teachers, opportunity should be given for the teacher to make a choice of the number she desires. For example, 27 teachers indicated that one rotary eggbeater rather than the two specified on the original list was sufficient for their needs. The recommended list will read, then, one or two rotary eggbeaters.

Table 11 summarizes the data on the percentage of teachers deciding to include each utensil, the percentage of times that utensil was used, and the modifications desired for each of the recommended utensils and tools.

TABLE 11*

Summary of Data on Recommended Utensils and Tools

Utensil	Decisions Of Teacher		Meals In Which Utensil Was Used	Modification Desired**
	%		%	
	Inc.	Omit		
(1)				
1 Double boiler				
Upper 1-1/2 qt.				
Lower 2 qt.	81.2	2.2	48.5	
(2)				
1 Double boiler				
Upper 2 qt.				
Lower 3 qt.	66.5	25.2	27.8	
or				
Upper 1/2 - 1-1/4 qt.				
Lower 1-2 qt.	23.7	1.3	14.5	
(3)				
1 Sauce pan, 1 pt.	61.6	4.4	40.1	
or				
1 Sauce pan				
3-6 cup	30.5	--	19.2	
(4)				
1 Skillet, 10"	82.9	1.2	32.4	
(5)				
1 Casserole, 1-1/2 qt.	84.2	4.4	30.1	
(6)				
1 Muffin pan, 6 cups	80.1	2.2	23.3	Include two

*Table 11 should read: (1) Double boiler: 81.2% of the teachers giving a decision as to this utensil wished to include it and 2.2% to omit it. This double boiler was used in 48.5% of the meals in which it was available. Fewer than ten teachers wished to include more than one double boiler of this size.

**Modifications desired by ten or more teachers as to the number of utensils to be included. See Appendix, Table II, for complete data.

Utensil	Decisions Of Teacher		Meals In Which Utensil Was Used	Modification Desired
	% Inc.	Omit	%	
(7)				
2 Layer cake pans	78.6	12.1	10.2	
(8)				
1 Utility tray	76.3	14.4	54.0	
(9)				
2 Pie pans, 5"	64.9	13.2	10.2	
or				
2 Pie pans, 6-8"	21.9	--	4.8	
(10)				
2 Cooling racks	89.2	2.1	25.9	One only
(11)				
4 Custard cups	89.9	5.3	23.9	
(12)				
1 Bowl, 3 qt.	83.9	12.2	40.9	
(13)				
2 Bowls, 2 qt.	92.1	2.2	63.4	
(14)				
2 Bowls, 1 qt.	95.6	2.2	56.5	
(15)				
1 Sifter, 2-1/2 cup	84.9	2.2	54.2	
(16)				
1 Pastry Blender	86.5	13.2	23.7	
(17)				
2 Rotary eggbeaters	100.0	--	57.1	One only
(18)				
1 Sieve, 5"	81.8	7.8	28.8	
(19)				
1 Rolling pin, 10"	96.6	2.1	29.9	

Utensil	Decisions Of Teacher		Meals In Which Utensil Was Used	Modification Desired
	Inc.	Omit	%	
(20)				
1 Cookie cutter 1-1/2"	92.1	2.3	22.3	
(21)				
2 Paring knives 2-1/2"	90.8	--	69.7	
(22)				
2 Paring knives, 4"	80.6	12.9	47.5	
(23)				
1 Knife, 8"	88.4	5.8	41.8	
(24)				
4 Case forks 4 tines	90.1	2.3	56.4	
(25)				
2 Measuring cups Glass	94.1	--	81.9	
(26)				
2 Sets Mary Ann cups	89.4	10.6	63.8	
(27)				
4 Tablespoons	98.9	1.1	83.3	
(28)				
4 Teaspoons	92.6	5.4	60.9	
(29)				
2 Measuring spoon sets	98.5	1.5	90.2	
(30)				
4 Case knives	94.8	5.2	50.7	Two only
(31)				
1 Spatula, 7"	89.6	4.8	46.6	

Utensil	Decisions Of Teacher		Meals In Which Utensil Was Used	Modification Desired
	% Inc.	Omit	%	
(32) 2 Wooden spoons 13"	87.8	--	52.5	One only
(33) 2 Dish pans	96.6	3.4	87.8	
(34) 1 Tray 12"x15"x1/2"	81.3	7.5	55.6	
(35) 1 Salt shaker	96.5	3.5	79.1	
(36) 1 Vegetable brush	98.6	1.4	43.1	
(37) 1 Sink strainer	95.7	4.3	77.8	
(38) 2 Rubber scrapers	100.0	--	60.2	One only

Not shown on Table 11 are the additional utensils listed by the teachers as those actually used in preparing the 487 meals. If a utensil was listed by one-fourth or more of the 98 teachers, there would seem to be sufficient reason for adding that utensil to the list of equipment for the unit kitchen. By this criterion, the following utensils should be added to the recommended list of utensils and tools:

- one grater
- one cookie sheet
- one lemon squeezer
- one can opener

PART II: CHINA, GLASS, AND SILVER

As was described in Chapter II, there were no specific items of china, glass, or silver given on the Check List. The teachers were asked to list the china, glass, and silver used in serving the five meals their students prepared.

China

The china that was listed by the teachers as being used in serving the meals was divided into three categories: plates, dishes for individual service, and serving dishes. For convenience in tabulating, the plates and the dishes for individual service were grouped in sets of four to six of a kind.

Plates. The sets of plates were grouped according to the number of different kinds of plates used by any one cooperator; namely, one set, two sets, three, four, five, or six sets. Table 12 shows the number of sets of plates used by the cooperators in serving the meals.

TABLE 12*

Plates Used in Serving Meals

Item	Regions									
	Total		Central		North Atlantic		Pacific		Southern	
	No.	%	No.	%	No.	%	No.	%	No.	%
**ONE SET										
Dinner Plates	6	6.1	1	4.0	1	4.0	--	--	4	17.4
***TWO SETS (27)										
(a) Dinner and Salad or Bread & Butter	21	21.4	5	20.0	4	16.0	4	16.0	8	34.8
(b) Luncheon or Salad and Bread & Butter	4	4.1	1	4.0	2	8.0	1	4.0	--	--
(c) Miscellaneous	2	2.0	--	--	2	8.0	--	--	--	--
THREE SETS (38)										
(a) Dinner, Salad, and Bread & Butter	15	15.3	5	20.0	3	12.0	3	12.0	4	17.4
(b) Luncheon or Breakfast and Salad or Dessert and Bread & Butter	9	9.2	2	8.0	2	8.0	4	16.0	1	4.3
(c) Miscellaneous	14	14.3	5	20.0	2	8.0	4	16.0	3	13.0
FOUR SETS	21	21.4	3	12.0	6	24.0	9	36.0	3	13.0
FIVE SETS	2	2.0	2	8.0	--	--	--	--	--	--
SIX SETS	1	1.0	1	4.0	--	--	--	--	--	--
No data	3	3.2	--	--	3	12.0	--	--	--	--
Total	98	100.0	25	100.0	25	100.0	25	100.0	23	100.0

*Table 12 should read: of the 98 teachers, six listed one set of plates only. These consisted of dinner plates. Twenty-seven teachers listed two sets of plates; 21 teachers listed one set of dinner plates and one set of salad or one set of dinner plates and one set of bread and butter plates.

**One set denotes four to six of a kind.

***Two sets denotes more than six of a kind.

Table 12 indicates a more frequent use by 38 teachers of three different sets of plates than of any other number. A set each of dinner plates, salad plates, and bread and butter plates was the most frequently listed combination. The next highest listing, that of two different sets, was given by 27 teachers with a set each of dinner plates and salad plates, or a set each of dinner plates and bread and butter plates accounting for 21 of the 27 listings.

The larger number of sets, four, five, and six sets, may be accounted for by the fact that some cooperators used more than one set of salad plates or bread and butter plates. From a study of some of the menus, it can be seen how this number of plates could have been used. For example, in one of the southern states, this menu was prepared:

Tomato Juice	
Southern Fried Chicken	
Parsley Potatoes	Buttered Corn
Mixed Vegetable Salad	
Yeast Rolls	Butter
Lemon Pie	
Milk	

With a set of underliners under the cocktail, a set of dinner plates, salad plates, and butter plates for the main course, and a set of dessert plates, five sets could have been used. In several instances, more than four girls were served. This would account for the additional set of plates in these situations.

The use of four sets of plates was quite common, with 21 of the 98 teachers reporting the use of that number. Five and six sets, however, were so uncommon as to be disregarded in the planning of storage for the average high school.

Many teachers seemed to prefer the use of luncheon plates in place of the dinner-plate size. Because of the smaller servings often served in the school situation, perhaps consideration should be given the luncheon-plate size when purchasing plates.

A combination of dinner plate, salad plate, and bread and butter plate seems to be the most common combination of plates. These three sizes could meet all of the needs of meal service. The salad-plate size could serve both for salad and for dessert, whereas the bread and butter plates could serve also as underliner. These multiple uses might necessitate more than one set of a kind in some departments.

Dishes for Individual Service. Cups and saucers, soup plates, and similar dishes used in serving each person at the table must also be stored in sets. These items were grouped together for ease in tabulating. The percentage of teachers reporting each set of dishes is shown in Table 13.

TABLE 13
Individual Service Dishes

		Regions								
Item	Total		Central		North Atlantic		Pacific		Southern	
	No.	%	No.	%	No.	%	No.	%	No.	%
ONE SET EACH:										
(1) Cups and Saucers	67	68.4	22	88.0	17	68.0	15	60.0	13	56.5
(2) Dessert Dishes	56	57.2	20	80.0	13	52.0	14	56.0	9	39.1
(3) Soup Bowls	34	34.7	7	28.0	9	36.0	12	48.0	6	26.1
(4) Cereal Bowls	25	25.5	12	48.0	6	24.0	2	8.0	5	21.7

One set of cups and saucers was listed by more cooperators than was any other set of items. The teachers not listing cups and saucers did not serve a hot beverage during the five meals prepared for the study. It would seem logical that at some time during the year each class would serve a beverage necessitating the use of cups and saucers.

Sauce dishes, which include items listed as such and also dessert dishes, dessert bowls, and fruit dishes, were listed by more than half of the 98 teachers reporting.

Combining the 34 listings for a set of soup dishes and the 25 listings for a set of cereal bowls gives a total of 59 cooperators listing some type of bowl for the individual service of soup or cereal. There would appear to be little overlapping of uses for these dishes in the same meal. That is, no menu, probably, would include both a soup and a cereal. Thus, one set of bowls which could be used to serve both purposes would be most practical.

The following sets of dishes for individual service would seem to be adequate: six cups and saucers, six sauce dishes, and six cereal bowls.

Dishes for Serving. When a meal is served by the English or Family style of table service, vegetable dishes and platters are necessary. These dishes and similar items needed for table service are included in Table 14.

TABLE 14
Serving Dishes

Item	Regions									
	Total		Central		North Atlantic		Pacific		Southern	
	No.	%	No.	%	No.	%	No.	%	No.	%
(1) Platter One	54	55.1	17	68.0	11	44.0	12	48.0	14	60.9
(2) Serving Bowls One	21	21.4	8	32.0	3	12.0	2	8.0	8	34.8
Two	36	36.8	10	40.0	9	36.0	10	40.0	7	30.4
(3) Sugar & Creamer	50	51.0	17	68.0	12	48.0	11	44.0	10	43.5
(4) Salt & Pepper	41	41.8	12	48.0	12	48.0	12	48.0	5	21.7
(5) Pitcher	30	30.6	8	32.0	8	32.0	9	36.0	5	21.7
(6) Large Plate (Bread - Cake)	25	25.5	5	20.0	7	28.0	5	20.0	8	34.8
(7) Small Plate (Butter - Cookie)	20	20.4	3	12.0	6	24.0	5	20.0	6	26.1

Serving food at the table requires more time than if the plates were served from the kitchen. The data given in Chapter I on the length of the class period of those participating in the study, showed that the largest number had a 55-60 minute period. This could explain why more did not list serving dishes along with the other china.

Many teachers listed five dinner plates and five bread and butter plates. The extra plates were probably for bread and for butter. In the tabulation, these were included as one set of dinner plates and one set of bread and butter plates. Had the plates for bread or cake and for butter or cookies all been listed separately, these numbers would undoubtedly have been larger than those shown on the table. The inclusion of six of each set of plates will provide for these needs.

Glass

Three kinds of drinking glasses were listed on the Check List by the teachers, water glasses, juice glasses, and iced tea glasses. Chapter II explained how they were grouped by the number of sets of four to six of a kind used by any cooperator. Table 15 shows the glassware reported by the 98 teachers as being used in serving the meals.

TABLE 15*

Glass Used in Serving Meals

Item	Regions									
	Total		Central		North Atlantic		Pacific		Southern	
	No.	%	No.	%	No.	%	No.	%	No.	%
1. Drinking Glasses										
a. One type -										
Water glass	(60)		(11)		(21)		(19)		(9)	
(1) One Set	45	45.4	7	28.0	19	76.0	14	56.0	5	21.7
(2) Two sets	14	14.3	4	16.0	2	8.0	5	20.0	3	13.0
(3) Three sets	1	1.1	--	--	--	--	--	--	1	4.3
b. Two types -										
One set each	(28)		(11)		(2)		(16)		(9)	
(1) Water Glasses & Juice Glasses	21	21.4	11	44.0	1	4.0	5	20.0	4	17.4
(2) Water Glasses & Iced Tea Glasses	7	7.4	--	--	1	4.0	1	4.0	5	21.7
c. Three types -										
One set each Water Glasses, Juice Glasses and Iced Tea Glasses	4	4.3	--	--	--	--	--	--	4	17.4
d. No data as to Drinking Glasses	6	6.1	3	12.0	2	8.0	--	--	1	4.3

*Table 15 should read: 60 teachers reported the use of one kind of drinking glass only--water glasses. Of these 60 teachers, 45 (or 45.9 per cent of the 98 cooperators) used one set; 14 (or 14.3 per cent of the 98) used two sets; and one teacher reported the use of three sets.

Item	Total		Central		North		Pacific		Southern	
					Atlantic					
	No.	%	No.	%	No.	%	No.	%	No.	%
2. Other Glassware - One set each										
a. Sherbet Glasses	46	46.6	15	60.0	14	56.0	10	40.0	7	30.4
b. Glass Plates	9	9.2	1	4.0	3	12.0	1	4.0	4	17.4

The cooperators who used one type of drinking glass only reported that water glasses were used exclusively. Sixty of the 98 cooperators listed one type only. Of the 14 teachers listing two sets of water glasses, the majority used one set for milk and one set for water.

Twenty-five teachers reported the use of juice glasses. Twenty-one included juice glasses with a set of water glasses, and four teachers included water, iced tea and juice glasses.

The Southern region accounted for nine of the 11 listings of iced tea glasses. This seems to be a regional difference that would indicate that the Southern region might like to include iced tea glasses in the unit kitchen; whereas, iced tea glasses would not be needed in the other regions.

Sherbet glasses are the only other glassware item listed by a sufficient number of teachers to indicate that they should be included in the unit kitchen.

Silver

The silver that was used in serving the 487 meals was listed. Many of the items were in sets of four to six of a kind. Other items, such as tablespoons, butter knives, and sugar shells, were listed as one or two of a kind.

Table 16 shows the items of silver used by the 98 cooperators in serving the meals and the number of each item used.

TABLE 16

Silver Used in Serving Meals

Item	Regions									
	Total		Central		North Atlantic		Pacific		Southern	
	No.	%	No.	%	No.	%	No.	%	No.	%
(One set each unless specified)										
(1) Knives	84	85.8	21	84.0	22	88.0	21	84.0	20	87.0
(2) Forks	86	87.8	20	80.0	22	88.0	21	84.0	23	100.0
(3) Teaspoons	54	55.1	8	32.0	10	40.0	18	72.0	18	78.3
Two sets	31	31.6	12	48.0	12	48.0	3	12.0	4	17.4
(4) Tablespoons										
One or two	15	15.3	5	20.0	3	12.0	4	16.0	3	13.0
(5) Salad forks	34	34.7	11	44.0	2	8.0	10	40.0	11	47.8
(6) Soup spoons										
One set	29	29.6	11	44.0	6	24.0	8	32.0	4	17.4
(7) Bread & Butter knives	22	22.5	6	24.0	5	20.0	8	32.0	3	13.0
(8) One Butter knife	18	18.4	6	24.0	2	8.0	2	8.0	8	34.8
(9) One Sugar Shell	16	16.3	6	24.0	2	8.0	1	4.0	7	30.4
Iced Tea spoons	9	9.2	1	4.0	--	--	1	4.0	7	30.4
No data	11		4		3		4		--	

A number of regional differences are indicated in the above table on the amount of silver used. Both the Central and North Atlantic regions used two sets of teaspoons most frequently, but the Pacific and Southern regions used only one set. The North Atlantic region reported the use of salad forks only twice in contrast to the other regions who reported the use of this item at least ten times. These regional differences, however, are not too significant because of the fact that these figures indicate only the silver that was used in serving the meals prepared for this study and are not necessarily the opinions of the 98 teachers about what should be included in a unit kitchen.

Summary

The recommended list of china, glass, and silver to be stored in the unit kitchen is based on the items listed most frequently by the 98 teachers. Although the unit kitchen is equipped for four girls, the recommendation is made that six of each item of china, glass, and silver be provided so as to allow service for an occasional guest and to supply the need for the odd dishes needed for service of such foods as bread, butter, cookies, and relish.

Recommended List of China, Glass, and Silver

China

6 dinner or luncheon plates
6 salad plates .
6 bread and butter plates
6 cereal bowls
6 cups and saucers
1 platter
1 or 2 vegetable dishes
1 cream and sugar
1 salt and pepper

Glass

6 water glasses
6 juice glasses
6 sherbets

Silver

6 knives
6 forks
6 teaspoons
6 salad forks
2 to 4 tablespoons

PART III: STAPLES AND OTHER FOOD SUPPLIES

The problem of storage of food supplies in the home-making department involves differences of opinion among teachers. There are a number of methods used for storing these supplies.

Some teachers prefer to have all food supplies stored in a central supply area from which the teacher or the girls obtain the specific supplies in the amounts needed for each lesson. Other teachers would have all food supplies stored in each unit kitchen. Each of these two extremes presents difficulties. If all food supplies are stored in a central supply area, the amount of time and effort required by the teacher or pupils in distributing these supplies for each class period is to be questioned. On the other hand, when all food supplies needed are stored in each unit kitchen, the problem arises of the increased cost for storage space.

The most common practice for storing food supplies seems to be a combination of unit kitchen and central storage. This conclusion was substantiated in the present study.

Staple Foods

In order to determine the amount of storage for food supplies preferred by the 98 teachers participating in this study, three staple foods, flour, sugar, and salt were given on the Check List. The teachers were asked to list any additional staples they thought should be stored in the unit kitchen. These items were not to be limited to those used in the five meals prepared for this study, but were to include all staples they wished to store in the unit kitchen. For all of the items listed, as well as for flour, sugar, and salt, the teachers were asked to indicate the amounts of these staple foods they wished to store in the unit kitchen. These data were compiled into three tables to show (1) the number of different items, (2) the specific items of staple foods, and (3) the amount of each of these staple foods teachers wished to store in the unit kitchen.

The number of different items to be stored is one of the first considerations to be made in planning storage. The storage of seven or eight different items poses a different storage problem than does a larger amount of one or two items.

Table 17 indicates how many different staple foods the 98 teachers listed.

TABLE 17

Number of Items of Staple Foods
Teachers Wish to Store

No. of Items	Total	North			
		Central	Atlantic	Pacific	Southern
Three or Four	15	4	2	3	6
Five or Six	28	9	7	8	4
Seven or Eight	12	4	2	2	4
Nine or Ten	14	1	6	5	2
Eleven or Twelve	8	3	1	1	3
Thirteen or More	15	3	7	5	--
No Data	5	1	--	1	3
No Storage	1	--	--	--	1
Total	98	25	25	25	23

The Check Lists indicated that the majority of teachers would like a number of items of staple foods in each kitchen rather than just the flour, sugar, and salt for which cannisters often supply storage space in each unit kitchen.

The largest number of teachers listed five or six items of staple foods; however, a large number reported seven or more items. Five to ten items would meet the needs of a majority of the teachers. Perhaps some opportunity might be given for storage of additional items if the teacher wished them.

Table 18 indicates what specific staple foods the teachers wished to store and the number of teachers listing each staple.

TABLE 18

Staple Foods Teachers Wish to Store

Staple Food	Total		Central		North Atlantic		Pacific		Southern	
	No.	%	No.	%	No.	%	No.	%	No.	%
Flour	92	93.9	24	96.0	25	100.0	24	96.0	19	82.6
Sugar	90	91.8	24	96.0	24	96.0	24	96.0	18	78.2
Salt	92	93.9	24	96.0	25	100.0	24	96.0	19	82.6
Baking Powder	73	74.5	19	76.0	22	88.0	20	80.0	12	52.2
Pepper	65	66.3	18	72.0	17	68.0	14	56.0	16	69.6
Spices	50	51.0	11	44.0	17	68.0	15	60.0	7	30.4
Soda	49	50.0	14	56.0	14	56.0	12	48.0	9	39.1
Flavorings	41	41.8	12	48.0	11	44.0	13	52.0	5	21.7
Shortening	32	32.7	5	20.0	13	52.0	8	32.0	6	26.1
Cocoa	32	32.7	9	36.0	11	44.0	8	32.0	4	17.3
Cornstarch	27	27.6	9	36.0	10	40.0	7	28.0	1	4.3
Vinegar	17	17.4	5	20.0	8	32.0	2	8.0	2	8.7
Others	31	31.6	5	20.0	12	48.0	8	32.0	6	26.1
No Storage	1	--	--	--	--	--	--	--	1	
No Data	5		1		--		1		3	

There were 93 teachers giving information concerning the staple foods to be stored in the unit kitchen. Of this number, 92 indicated that they wished to store flour and salt; and all but three wished to have sugar stored in each unit kitchen. These three staples were reported by more teachers than any other staple listed. This is probably due to the fact that these three items were given on the Check List. Had some of the other staples also been listed, possibly more teachers would have checked them. The figures given for the other items, then, are probably more significant than those given for the first three items.

The items of staple foods listed by one-third or more of the teachers reporting these data were the following: flour, sugar, salt, pepper, baking powder, spices, soda, flavoring, shortening, and cocoa. The storage of shortening would not be feasible in all schools. The climatic conditions and frequency of use would determine whether storage of this staple food were practical.

This number of items, ten, would meet the requirements of most of the teachers as indicated in Table 17.

The opinions of the 93 teachers varied greatly on the amounts of these staple foods that should be stored. The amounts of the staple foods listed by the teachers were grouped according to quantities shown by a study of the Check Lists. The amounts of each of the ten staple foods are shown in Table 19.

TABLE 19

Amounts of Staple Foods to be Stored

Item	Regions									
	Total		Central		North Atlantic		Pacific		Southern	
	No.	%	No.	%	No.	%	No.	%	No.	%
No. Teachers Including	92	94.0	24	96.0	25	100.0	24	96.0	19	82.6
Flour										
1-4 lbs.	34	37.0	7	29.2	7	28.0	11	45.8	9	47.4
5-9 lbs.	33	35.9	9	37.5	10	40.0	7	29.2	7	36.8
10 lbs.										
or over	14	15.2	2	8.3	7	28.0	5	20.8	--	--
Amt. not given	11	12.0	6	25.0	1	4.0	1	4.1	3	15.7
No. Teachers Including	90	91.8	24	96.0	24	96.0	24	96.0	18	78.2
Sugar										
1-3 lbs.	42	46.7	10	41.6	9	37.5	12	50.0	11	61.1
4-5 lbs.	28	31.1	6	25.0	12	50.0	7	29.2	3	16.6
Over 5 lbs.	6	6.7	1	4.1	1	4.1	4	16.6	--	--
Amt. not given	14	15.6	7	29.3	2	8.3	1	4.1	4	22.2
No. Teachers Including	92	93.9	24	96.0	25	100.0	24	96.0	19	82.6
Salt										
1 box*	18	19.6	5	20.8	3	12.0	6	25.0	4	21.1
1/4 - 1 cup	30	32.6	7	29.2	9	36.0	7	29.2	7	36.8
1/4 - 1 lb.										
or over	24	26.1	4	16.6	11	44.0	7	29.2	2	10.6
1-2 Shakers*	9	9.8	2	8.3	1	4.0	3	12.5	3	15.7
Amt. not given	11	12.0	6	25.0	1	4.0	1	4.1	3	15.7
No. Teachers Including	73	74.5	19	76.0	22	88.0	20	80.0	12	52.2
Baking Powder										
1 can*	35	48.0	12	63.2	10	45.5	6	30.0	7	58.4
1/2 lb.										
or less	17	23.3	3	15.7	5	22.7	8	40.0	1	8.3
12 oz. -										
1 lb.	7	9.6	--	--	4	18.2	3	15.0	--	--
Amt. not given	14	19.2	4	21.1	3	13.6	3	15.0	4	33.3

*In cases where neither weight nor measure were given, the terms such as box or can were included on the table.

Item	Total		North		Central Atlantic		Pacific		Southern	
	No.	%	No.	%	No.	%	No.	%	No.	%
No. Teachers Including	65	66.3	18	72.0	17	68.0	14	56.0	16	69.6
Pepper										
1 box*	17	26.2	5	27.8	6	35.3	4	28.6	2	12.5
1/2 cup or less	16	24.6	2	11.1	5	29.4	3	21.4	6	37.5
2-4 oz.	8	12.3	2	11.1	3	17.6	2	14.3	1	6.2
1-2 shakers*	9	13.9	4	22.2	--	--	2	14.3	3	18.8
Amt. not given	15	23.1	5	27.8	3	17.6	3	21.4	4	25.0
No. Teachers Including	50	51.0	11	44.0	17	68.0	15	60.0	7	30.4
Spices										
3-5 cans	20	40.0	3	27.3	11	64.7	4	26.7	2	28.5
1-2 cans	9	18.0	2	18.2	2	11.7	4	26.7	1	14.3
1 can each	11	22.0	2	18.2	1	5.9	6	40.0	2	28.5
2-oz. boxes	2	4.0	--	--	1	5.9	--	--	1	14.3
Amt. not given	8	16.0	4	36.3	2	11.7	1	6.6	1	14.3
No. Teachers Including	49	50.0	14	56.0	14	56.0	12	48.0	9	39.1
Soda										
1 box*	25	51.0	7	50.0	5	35.7	8	66.7	5	55.5
1/2 lb. or less	12	24.5	2	14.3	6	42.8	1	8.3	3	33.3
1 lb.	5	10.2	2	14.3	2	14.3	1	8.3	--	--
Amt. not given	7	14.3	3	21.4	1	7.1	2	16.7	1	11.1
No. Teachers Including	41	41.8	12	48.0	11	44.0	13	52.0	5	21.7
Flavorings										
1 bottle*	31	75.6	7	58.3	9	81.8	10	76.9	5	100.0
2 bottles or more	9	22.0	4	33.3	2	18.2	3	23.1	--	--
Amt. not given	1	2.4	1	8.3	--	--	--	--	--	--
No. Teachers Including	32	32.7	5	20.0	13	52.0	8	32.0	6	26.1
Shortening										
3 lbs.	14	43.8	3	60.0	6	46.1	3	37.5	2	33.3
1-2 lbs.	11	34.4	2	40.0	4	30.8	3	37.5	2	33.3
Amt. not given	7	21.9	--	--	3	23.1	2	25.0	2	33.3

Item	Total		North		Central Atlantic		Pacific		Southern	
	No.	%	No.	%	No.	%	No.	%	No.	%
No. Teachers										
Including	32	32.7	9	36.0	11	44.0	8	32.0	4	17.3
Cocoa										
1/2 lb.										
or less	10	31.3	4	44.1	3	27.3	2	25.0	1	25.0
1 lb. or										
more	7	21.9	1	11.1	3	27.3	3	37.5	--	--
1 box*	9	28.1	2	22.2	2	18.1	3	37.5	2	50.0
Amt. not										
given	6	18.7	2	22.2	3	27.3	--	--	1	25.0

Table 19 shows a marked difference of opinion as to the amount of certain staples the teachers wished to store. For example, flour in from one to four-pound lots would meet the requirements of a third of the teachers; another third wished to store from five to nine pounds, whereas a sixth would include ten pounds or more.

Almost half of the teachers who reported that they wished to store sugar indicated that three pounds or less would be sufficient, but a third of the teachers preferred more than this amount. Sugar, in this table, is used to designate all kinds of sugar, granulated, brown and powdered. Although the majority of the teachers listed granulated only, some wished to store all three kinds in the unit kitchen.

The last two staples in the table, shortening and cocoa, were listed by 32 teachers or by only about one-third of the cooperators. Over half of those, 14, stating a preference on the amount of shortening, wished three pounds, but the remaining 11 reported that one or two pounds was sufficient.

One specific regional difference stands out in Table 19. In every instance but one, the Southern region reported fewer teachers wishing to store the ten staple foods listed in Table 17 than did the other regions. For nearly every item, the Southern region also

suggested smaller amounts to be stored, perhaps because of climatic conditions.

Foods Other Than Staples

The assumption can be made from the meager data provided by the Check Lists that teachers do not prefer to store foods other than staples in the unit kitchen. One item only, canned goods, was listed by more than eight teachers. Many of the items listed by one to eight teachers included such foods as milk and eggs which would necessitate some provision for refrigeration. This presents again the problem of duplicate installation of expensive equipment. The small numbers of teachers reporting on storage of foods other than staples in the unit kitchen probably means that they found a central storage area adequate for these supplies and would indicate that provision must be made for storage of food supplies in the homemaking department outside the unit kitchen.

Summary

From five to ten items of staple foods would meet the needs of the students in the opinion of a majority of the 98 teachers participating in this study. A compilation of the data given by the teachers on the specific items they wished to store would indicate that the following amounts of staple foods should be stored in the unit kitchen:

Flour--	1-10 pounds
Sugar--	1-5 pounds
Salt--	1 pound or less
Baking powder--	1 can
Pepper--	1 box
Spices--	3-5 cans
Soda--	1 box
Flavorings--	1 bottle (vanilla)
Cocoa--	1/2 pound or less
Shortening--	1-3 pounds (if feasible)

PART IV:

LINENS, DISHWASHING SUPPLIES, AND PERSONAL BELONGINGS

One more group of items needs to be considered before the problem of equipment storage for the unit kitchen is complete. This includes a miscellaneous grouping of items not classifiable elsewhere; namely, linens needed for serving meals and for dishwashing, other dishwashing supplies, and the girls' personal belongings.

Linens and Similar Items

Table 20, which follows, includes such items as paper napkins and paper towels as well as cloth napkins, place mats, and other cloth articles. The table shows the number of teachers who indicated they wished to store each item as well as the number of each item they thought should be stored in each unit kitchen.

TABLE 20

Linens And Similar Articles Teachers Wish to Store

		Regions								
Item	Total		Central		North Atlantic		Pacific		Southern	
	No.	%	No.	%	No.	%	No.	%	No.	%
No. Teachers	79	80.7	18	72.0	21	84.0	21	84.0	19	82.6
Dish Cloths										
1 or 2	35	44.3	6	33.3	12	59.5	9	42.9	8	42.1
3 or 4	19	24.1	7	38.8	4	19.0	4	19.0	4	21.1
5 or more	10	12.7	3	16.6	1	4.7	3	14.2	3	15.7
No. not given	15	19.0	2	11.1	4	19.0	5	23.8	4	21.1
No. Teachers	78	79.5	18	72.0	21	84.0	21	84.0	19	82.6
Dish Towels										
1 to 3	15	19.2	2	11.1	4	20.0	5	23.8	4	21.1
4 to 6	30	38.4	7	38.8	10	50.0	7	33.3	6	31.6
8 or more	19	24.4	7	38.8	3	15.0	4	19.0	5	26.3
No. not given	14	18.0	2	11.1	3	15.0	5	23.8	4	21.1
No. Teachers	88	89.8	24	96.0	24	96.0	22	88.0	18	78.2
Holders										
1 or 2	23	26.1	4	16.6	8	33.3	5	22.7	6	33.3
3 or 4	37	42.1	13	54.1	8	33.3	9	40.9	7	38.8
5 or more	12	13.6	5	20.8	3	12.5	3	13.6	1	5.5
No. not given	16	18.2	2	8.3	5	20.8	5	22.7	4	22.2
No. Teachers	56	57.1	14	56.0	11	44.0	17	68.0	14	60.9
Lunch Cloths										
1	20	35.7	5	35.7	3	27.3	7	41.2	5	35.7
2	18	32.2	5	35.7	6	54.5	4	23.5	3	21.4
3 or more	6	10.7	1	7.1	--	--	--	--	5	35.7
No. not given	12	21.4	3	21.4	2	18.2	6	35.2	1	7.1
No. Teachers	28	28.6	7	28.0	7	28.0	6	24.0	8	34.8
Table Cloths										
1	9	32.1	2	28.6	3	42.8	2	33.3	2	25.0
2	3	10.7	--	--	1	14.3	--	--	2	25.0
3 or more	3	10.7	1	14.3	--	--	--	--	2	25.0
No. not given	13	46.4	4	57.1	3	42.8	4	66.7	2	25.0

Item	Total		North		Central Atlantic		Pacific		Southern	
	No.	%	No.	%	No.	%	No.	%	No.	%
No. Teachers	51	52.1	13	52.0	8	32.0	13	52.0	17	73.9
Cloth Nap-										
kins										
4 to 6	21	41.2	4	30.7	3	37.5	6	46.1	8	47.0
8 or more	18	35.3	6	46.2	4	50.0	2	15.3	6	35.3
No. not given	12	23.6	3	23.1	1	12.5	5	48.5	3	17.6
No. Teachers	70	71.4	21	84.0	16	64.0	19	76.0	14	60.9
Paper Nap-										
kins										
1 or 2 pkgs.	36	51.4	15	71.4	6	37.5	10	52.6	5	35.7
Less than										
80	13	18.6	1	4.8	3	18.7	5	26.3	4	28.6
100	5	7.1	2	9.5	3	18.7	--	--	--	--
No. not given	16	22.9	3	14.2	4	25.0	4	21.1	5	35.7
No. Teachers	83	84.7	22	88.0	18	72.0	22	88.0	21	91.3
Hand Towels										
1 to 3	10	12.0	3	13.7	2	11.1	2	9.0	3	14.3
4 or more	18	21.6	6	27.2	3	17.7	4	18.1	5	23.8
Paper	45	54.4	11	50.0	12	66.7	12	54.5	10	47.6
No. not given	10	12.0	2	9.1	1	5.5	4	18.1	3	14.3
No. Teachers	74	75.5	20	80.0	17	68.0	20	80.0	17	73.9
Place Mats										
1 to 4	45	60.8	13	65.0	11	64.7	11	55.0	10	58.8
5 or more	14	18.9	5	25.0	4	23.5	3	15.0	2	11.7
No. not given	15	20.3	2	10.0	2	11.7	6	30.0	5	29.4

It is evident from Table 20 that it is not necessary to store table cloths in the unit kitchen. Assuming that there would be some general storage area for additional items, it would be more practical to store table cloths in this general storage. The number of times in which they would be used by each unit kitchen in proportion to the use of place mats would be the determining factor.

Lunch cloths and cloth napkins were listed by slightly over half of the cooperators. This might indicate that in situations where storage space in the unit kitchen was at a premium, these items might be stored elsewhere. However, if a drawer is provided for place mats and paper napkins, it would in all probability be sufficiently large to include one or two lunch cloths and the number of cloth napkins desired.

It is interesting to note the wide use of paper napkins and paper towels. Forty-five of the 83 teachers reporting on hand towels reported a preference for paper towels, and 70 teachers reported they wished paper napkins as compared with 51 who listed cloth napkins. The time-saving element involved is self-evident.

The old standard of having girls bring hand towels and pot holders from home for school use has been replaced by the school's furnishing all articles needed.

Storage space must be provided not only for the articles in use but for additional clean supplies.

It is obvious from Table 20 that a larger supply in some general storage area would be necessary for replacements, for serving larger groups, and for the other school groups using the department. In the recommended list of linens and similar articles to be stored in the unit kitchen, the larger of the two numbers in the group listed most frequently by the teachers will be used. For example, for the first item, dish cloths, the largest number of teachers, 35, indicated that one or two dish cloths in each unit kitchen would meet their needs. In the final list, two, the larger of these numbers will be recommended.

In the discussion of lunch cloths and napkins, the drawer as a type of storage for these items was mentioned. Table 21 shows the number of teachers who preferred this type of storage for linens and similar items and the number who preferred other types of storage.

TABLE 21

Types of Storage Desired For
Linens and Similar Articles

Item	No. of Teachers Specifying Type of Storage No.	Drawer or Shelf					Type of Storage not Specified %
		Rack %	Drawer %	Rack %	Shelf %	Other %	
Dish Cloths	77	20.8	39.0	14.3	10.4	--	15.6
Dish Towels	76	13.2	44.7	15.8	9.2	--	17.1
Holdings	88	--	61.4	--	6.8	10.3	21.6
Lunch Cloths	46	--	89.1	--	8.7	--	23.9
Table Cloths	27	--	63.0	--	11.1	--	25.9
Cloth Napkins	51	--	66.7	--	3.9	--	29.4
Paper Napkins	70	--	60.0	--	14.3	--	25.8
Hand Towels	77	3.9	28.6	6.5	5.2	22.1	33.8
Place Mats	71	--	67.5	--	8.5	--	23.9

The drawer for linens was mentioned much more frequently than all other types of storage combined. Concerning those mentioning a drawer and a rack for storing towels and dish cloths, it is assumed that there must be some means provided either in the unit kitchen or elsewhere in the department for drying these items.

Dishwashing Supplies

All items for dishwashing listed by ten or more teachers were listed and made into Table 22.

TABLE 22

Dishwashing Supplies

Item	Regions									
	Total		Central		North Atlantic		Pacific		Southern	
	No.	%	No.	%	No.	%	No.	%	No.	%
Soap and Soap Powder (Cake included)	43	43.9	10	40.0	17	68.0	10	40.0	6	26.1
Cleanser	29	29.6	7	28.0	11	44.0	6	24.0	5	21.7
Scouring Pads or										
Steel Wool	13	13.3	3	12.0	5	20.0	3	12.0	2	8.7
Aprons	10	10.1	3	12.0	1	4.0	2	8.0	4	17.4
Cleaning or Stove Cloths	10	10.1	3	12.0	7	28.0	--	--	--	--

All teachers would agree that aprons are necessary for any food preparation work and storage space must be provided for them. That only ten teachers listed aprons in the items to be stored may be due to their preference for storage of all aprons outside the unit kitchen.

Cake soap, soap powder, and cleanser powder would meet the needs of most of the cooperators for dishwashing supplies.

Personal Belongings

The question of what should be done with the girls' notebooks and purses while they are working in the home-making department has always been a difficult problem. Table 23 shows the data provided by the 98 teachers concerning storage of personal belongings.

TABLE 23
Personal Belongings

	Regions				
	Total	North Central	Atlantic	Pacific	Southern
<u>Store Notebook</u>					
<u>In Unit Kitchen</u>					
<u>Yes</u>	50	12	13	12	13
<u>No</u>	44	13	12	11	8
No data	4	--	--	2	2
<u>Store Purse in</u>					
<u>Unit Kitchen</u>					
<u>Yes</u>	51	12	15	12	12
<u>No</u>	40	12	10	9	9
No data	7	1	--	4	2
<u>Type of Storage Suggested</u>					
Drawer	32	8	4	10	10
Shelf	8	1	5	1	1
Separate Compartment	3	--	2	--	1
Bin	2	2	--	--	--
Type of Storage Not Specified	11	3	5	1	2

Only about half of the teachers cooperating in this study reported that they wished the girls' personal belongings stored in the unit kitchen. Presumably the other half wished storage provided, but not in the unit kitchen. A special drawer for these items in the unit kitchen was most frequently mentioned, with 32 of the teachers suggesting this type of storage.

Summary

A drawer was the most frequently mentioned type of storage desired for linens and similar articles as well as for the girls' personal belongings. The 98 teachers were in agreement on the storage of the following items:

Linens and Similar Articles

- 2 dish cloths
- 6 dish towels
- 4 holders
- 6 place mats
- 4 hand towels
or
paper towels
- 1 package paper napkins

Dishwashing Supplies

1 cake soap

1 box soap powder

1 box cleanser

Personal Belongings

girls' purses

girls' notebooks

CHAPTER IV

SUMMARY AND RECOMMENDED LIST OF EQUIPMENT AND SUPPLIES
FOR THE UNIT KITCHEN

The purpose of the present study was to determine, as a preliminary to the planning of their storage for the unit kitchen, the equipment and supplies needed by four girls in the preparation and serving of meals in the unit kitchen.

A Check List was devised as the best method for gathering data on the utensils and tools used in preparation of meals, the china, glass, and silver used in serving meals, the amounts of food supplies, and the linens and other supplies to be stored in the unit kitchen. Check Lists were sent to home economics leaders throughout the United States who distributed them to teachers in their states. As the Check Lists were returned, they were evaluated on the adequacy of the meals prepared and on the completeness of the checking of the various parts. The 98 Check Lists that were chosen for the study represented the four regions of the United States: Central, North Atlantic, Pacific, and Southern. A total of 487 meals were prepared by the 98 cooperators using the utensils and tools given on the Check List. Each cooperator checked

the utensils that were used in the preparation of each meal and at the end of five meals indicated whether that specific utensil or tool should be included in the unit kitchen. Additional utensils used in the preparation of the meals were added by the teachers. A list of all of the china, glass, and silver used in serving the meals was requested. The teachers were also asked to list the staples and other foods they wished to store in the unit kitchen and the amounts of each. A list of linens and similar articles was included on the Check List with the request that the teachers indicate which items should be stored in the unit kitchen, the number of each, and the type of storage desired. Provision was made for the teacher's suggestions on the type of storage desired for the girls' personal belongings.

The 98 schools cooperating in the study represented a variety of teaching situations. The four-year high school was the most frequently listed type of school, although the junior and senior-high schools represented one-fourth of the schools. Approximately half of the cooperators reported that the experiment was carried on in the ninth and tenth grades, but grade levels from seventh to tenth were reported. Class sizes ranged from fifteen or less to more than thirty with the largest

number of cooperators reporting twenty students or fewer in the class participating in the study. Forty-two of these classes had a 55-60 minute period with an equal number having a longer period of time. A study of these data indicated that the group of 98 schools was typical of schools in the four regions represented.

The majority of the 487 meals prepared for the study were complete, well-balanced menus. There were 75 breakfasts served with 51 of the 75 rated as adequate. Of the 388 main meals, luncheon or dinner, served, 249 rated four or five points on a six-point rating scale used to judge the adequacy of the menus. Most of the menus could have been prepared using from four to six different cooking processes. The largest group of menus involved four cooking processes, but a large number included from five to seven processes. A variety of methods were used in preparing the 2237 dishes prepared: boiling, baking, steaming, frying, oven-cooking. All of these data: adequacy of the meals, number of cooking processes, and methods of preparation were used to evaluate the validity of the checking of the utensil list.

Each utensil on the original list or substitution written in by the teachers was considered to determine its value in the unit kitchen by an analysis of the number of times it was used in the preparation of the 487 meals,

the number of teachers who decided to include it in the unit kitchen, and the number of teachers who wished to modify the number of that utensil that should be included. As a result of this analysis, three utensils on the Dougherty Utensil List were omitted from the final recommended list. These utensils were the loaf cake pan, the bread pan, and the four-inch spatula, each of which had fewer than 75 per cent of the teachers deciding to include them. Any utensil added by one-fourth or more of the teachers was thought to be important enough to be included in the unit kitchen. By this criterion a grater, a cookie sheet, a lemon squeezer, and a can opener were the utensils added to the list.

The recommended list of china, glass, and silver to be stored in the unit kitchen was determined from a study of this equipment that was listed by the teachers as being used in serving the 487 meals prepared for this study. The recommended list contains those items listed by a majority of the teachers. Six of each type of article such as dinner plates, water glasses, or teaspoons, was recommended to allow for the service of a guest and to provide dishes for such foods as bread, butter, or relish.

Five or six items of staple foods were listed most frequently by the 98 teachers; however, a large number reported seven or more. From five to ten items would meet the needs of a majority of the teachers. Flour, sugar, salt, baking powder, pepper, spices, soda, flavorings, shortening, and cocoa were the ten most frequently listed staple foods.

A drawer for the storage of linens and similar articles was desired by more teachers than any other type of storage mentioned. Teachers wished to store cake soap, soap powder, and cleanser in the unit kitchen for dishwashing. Slightly more than half of the teachers reported that they wished provision made in the unit kitchen for the storage of the girls' notebooks and purses. A special drawer was the preferred type of storage for these articles.

RECOMMENDED EQUIPMENT AND SUPPLIES TO BE STORED IN THE UNIT KITCHEN

A summary of all of the data contributed by the Check Lists on the equipment and supplies used by the cooperators in the preparation of 487 meals and the opinions of the 98 teachers on the equipment and supplies to be stored in the unit kitchen are the bases for the recommended list given here:

Utensils and Tools

1 double boiler--upper 1-1/2 quart
lower 2 quart

1 double boiler--upper 2 quart
lower 3 quart

or

1 double boiler--upper 1/2 - 1-1/4 quart
lower 1-2 quart

1 sauce pan--1 pint

or

1 sauce pan--1 - 1-1/2 quart

1 skillet--10"

1 casserole--1-1/2 quart

1 or 2 muffin pans--6 cups

2 layer cake pans--9"x9"x1-1/2"

1 utility tray--13"x16"x1"

2 pie pans--5"

or

2 pie pans--6-8"

1 or 2 cooling racks--11"x11"

4 custard cups--3/4 cup

1 bowl--3 quart
2 bowls--2 quart
2 bowls--1 quart
1 sifter--2-1/2 cup
1 sieve--5"
1 pastry blender
1 or 2 rotary eggbeaters
1 rolling pin--10"
1 cookie cutter--1-1/2"
2 paring knives--2-1/2"
2 paring knives--4"
1 butcher knife--8"
2 or 4 case knives
4 case forks
4 teaspoons
4 tablespoons
2 measuring spoon sets
2 measuring cups--glass
2 sets Mary Ann cups
1 spatula--7"
1 or 2 wooden spoons--13"
1 or 2 rubber scrapers
1 salt shaker
1 tray--12"x15"x1/2"

1 vegetable brush

1 sink strainer

2 dish pans

1 grater

1 cookie sheet

1 lemon squeezer

1 can opener

China

- 6 dinner or luncheon plates
- 6 salad plates
- 6 bread and butter plates
- 6 cereal bowls
- 6 cups and saucers
- 1 platter
- 1 or 2 vegetable dishes
- 1 cream and sugar
- 1 salt and pepper

Glass

- 6 water glasses
- 6 juice glasses
- 6 sherbets

Silver

- 6 knives
- 6 forks
- 6 teaspoons
- 6 salad forks
- 2 to 4 tablespoons

Staples

flour--1-10 pounds
sugar--1-5 pounds
salt--1 pound or less
baking powder--1 can
pepper--1 box
spices--3-5 cans
soda--1 box
flavorings--1 bottle (vanilla)
shortening--1-3 pounds (if feasible)
cocoa--1/2 pound or less

Linens and Similar Articles

2 dish cloths
6 dish towels
4 holders
6 place mats
4 hand towels
 or
 paper towels
1 package paper napkins

Dishwashing Supplies

1 cake soap
1 box soap powder
1 box cleanser

Personal Belongings

girls' purses

girls' notebooks

BIBLIOGRAPHY

1. Amidon, Edna. "Space and Equipment For Homemaking Instruction," Journal of Home Economics, Volume 37, No. 3, March, 1945.
2. Blazier, Florence E. "Planning Homemaking Rooms," Journal of Home Economics, Volume 37, No. 8, October, 1945.
3. Dougherty, Ardythe Wilson. "Determining A Standard Set Of Utensils For A High School Homemaking Laboratory," Oregon State College Thesis, 1942.
4. Hirst, Alta. "Laboratories, Equipment, And Practices Used In Teaching Foods In Oregon High Schools," Oregon State College Thesis, 1943.
5. O'Reilly, Justine Beyers. "Opinions of Home Economics Leaders Concerning Locating, Arranging, and Equipping Homemaking Departments," Oregon State College Thesis, 1942.
6. Wilson, Maud. "Standards For Kitchen Utensils," Journal of Home Economics, Volume 35, No. 8, October, 1943.
7. Wilson, Maud, and McCullough, Helen E. "A Set of Utensils For The Farm Kitchen," Agricultural Experiment Station Circular 134, March, 1940.

APPENDIX

	<u>Page</u>
Utensils Recommended For Each Unit Kitchen (Dougherty)	i
Utensils Recommended For General Storage (Dougherty)	iii
Letter Sent to Home Economics Educators	iv
Check List	ix
Table I, Number of Utensils That Were Not Available	xiv
Table II, Number of Utensils Teachers Wished to Modify as to Number	xvi
Table III, Methods Used in Preparing 2237 Dishes	xix

Utensils Recommended For Each Unit Kitchen *

<u>No.</u>	<u>Article</u>	<u>Size</u>
1	Double boiler	Upper 1-1/2 quart Lower 2 quart
1	Double boiler	Upper 2 quart Lower 3 quart
1	Sauce pan	1 pint
1	Skillet, with lid	10"
1	Casserole	1-1/2 quart
1	Muffin pan	6 cups
2	Cake pans, layer	9"x9"x1-1/2"
1	Pan	9"x9"x2-1/2"
1	Bread pan	9"x5"x2-1/2"
1	Large pan, utility tray	13"x16"x1"
2	Pie pans	5"
2	Cooling racks	11"x11"
4	Custard cups	3/4 cup
1	Bowl	3 quart
2	Bowls	2 quart
2	Bowls	1 quart
1	Sifter	2-1/2 cup
1	Pastry Blender	
2	Rotary Eggbeaters	
1	Sieve	5"
1	Rolling Pin	10"
1	Combination cookie & biscuit cutter	1-1/2"
2	Paring knives	2-1/2" blade
2	Paring & slicing knives	4" blade
1	Knife (butcher, cutting & serving)	8" blade
4	Case forks - 4 tines	
2	Measuring cups - glass	
2	Sets of nested measuring cups - metal (Mary Ann's)	
4	Tablespoons	
4	Teaspoons	
2	Sets of measuring spoons (4 each)	
4	Case knives	

*Dougherty, Ardythe Wilson. Determining A Standard Set of Utensils for a Homemaking Laboratory, Oregon State College Thesis, 1942.

<u>No.</u>	<u>Article</u>	<u>Size</u>
1	Spatula	7" blade
1	Spatula	4" blade
2	Wooden spoons	13" long
2	Dish pans	
1	Tray	12"x15"x1/2"
1	Salt shaker	1/2 cup
1	Vegetable brush	
1	Sink strainer	
2	Rubber scrapers	
1	Kettle	6 quart (holds 4 pints)
1	Rack to fit kettle	
1	Funnel--wide mouth	

Utensils Recommended for General Storage*(one each)

Metal fork, 10"
Metal spoon, 11"
Metal spoon, perforated
Ladle, 2/3 cup
Turner, 12", rounded edge
Lemon reamer
Orange reamer
Grinder, No. 2
Ice cream freezer, 1 gallon (1 quart size if several)
Knife sharpener
Bottle opener
Can opener, wall type
Thermometer, candy
Thermometer, roast meat
Cake pan, tube, 9" diameter
Grater, set of 3
Wire whisk
Masher
Doughnut cutter
Teakettle, 4 quart
Teapot, 2 quart
Teaball, 1/2 cup
Pastry brush
Steamer, 2 quart with 3 quart base
Pressure cooker
Coffee maker, drip, 1 quart
Roaster with rack, oblong
Nut cracker
Griddle, 12"
Wire basket for 6 quart kettle for deep fat frying

Utensils Desirable for Demonstration Purposes

Pressure cooker sauce pan
Coffee Maker (Silex type)
Some utensils made from cast aluminum and copper-clad
stainless steel
Gelatin molds
Apple corers
Melon ball cutters
Grapefruit knives, etc.

*Dougherty, Ardythe Wilson. Determining a Standard Set of Utensils for a Homemaking Laboratory, Oregon State College Thesis, 1942.

OREGON STATE COLLEGE

School of Education

Corvallis, Oregon

March 13, 1944

To: State Supervisors and other Home Economics Educators

From: Florence E. Blazier, Oregon State College,
Corvallis, Oregon

Re: Study on STORAGE IN UNIT KITCHENS

During the week of November 27 to December 2, 1944, a group of 12 home economists met with representatives of the U. S. Office of Education to consider problems of space and equipment for teaching homemaking. The need for additional studies in this field was evident in the conference, and at the request of the group in Washington this present study was undertaken.

Since this is to be a nation-wide study, you will want to examine the check lists. If after study you wish to cooperate, I would like you to distribute _____ of these check lists to your teachers and to request that they be returned to me by June 1, 1945.

Note Concerning Check Lists

As set up, the five lessons are all to be meals, not necessarily consecutive. If, however, lessons in food preparation are not usually planned on the meal basis in your states, other types of lessons in food preparation may be substituted. For example, of the five lessons, two might be planned using individual foods such as muffins or cream soups and three might be meals.

As soon as possible after you receive this, tear off the lower section of this page and mail to me.

I wish to cooperate in this research. Yes___ No___*

Signed:

Name

Official Title

Address

*If you do not wish to cooperate, please return the check lists with this slip.

CHECK LIST

To Teachers of Homemaking:

In order to design storage space in unit kitchens, it is necessary to have a list of articles which it is desirable to store there. This study has been set up to obtain the answer to three questions involved in planning a unit kitchen where four girls prepare and serve meals.

Your cooperation in checking these lists and returning them will be appreciated.

Very truly yours,

Return check list to: FLORENCE E. BLAZIER
Home Economics Education
Oregon State College
Corvallis, Oregon

STORAGE IN THE UNIT KITCHENS

Assumptions

- I. Cooking utensils, tools, china, glass, and silver needed for preparing and serving a meal for four girls will be stored in the unit kitchen.
- II. It is assumed that food preparation will be taught on the meal basis, i.e., there will be practically no individual servings prepared as, for example, one serving of potato soup.
- III. Other utensils, needed for occasional use and of which there would be fewer than one for each unit kitchen, would be stored elsewhere in the homemaking room.

Definition and Arrangement

- I. A unit kitchen, as defined here, consists of a stove, a sink, a work surface (table or base cabinet with a top) and provisions for storage. The equipment may be grouped in any convenient arrangement, for example, in a U or L shaped unit.

- II. In close proximity to the unit kitchen there should be a table suitable in size and height for the serving of meals.

Name of School _____

Type of School _____

Name of Teacher _____

Grade level and size of the class
in which experiment is carried on _____

Length of class period _____

PART I. To determine the optimum number, size, and type
of utensils desirable.

The list given here was devised by Ardythe Wilson Dougherty at Oregon State College. The technique used was described in an article by Maud Wilson and published in the Journal of Home Economics, October, 1943.

Plan for Study

As outlined, this study is to be made by a teacher and her students. It calls for the arrangement of one or more unit kitchens and checking of the equipment in each unit.

Arrangement of Equipment

1. Arrange a unit according to the definition and arrangement given on page 1.
2. Remove present equipment from drawers and cabinets.
3. Select from present equipment the items of equipment specified--page 3--(or borrow from homes).
4. Check on the next two sheets as indicated.

Data concerning each of the five lessons

(It is not assumed that these lessons would be taught on consecutive days but only that a lesson would consist of a meal prepared and eaten by four girls.)

Lesson I.

Menu served:
Other comments

Lesson II.Lesson III.Lesson IV.Lesson V.

List of utensils and tools to be used by four girls
and stored in a unit kitchen*

No.	Article	Size	Lessons					Final Decisions
			1	2	3	4	5	
1	Double boiler	Upper 1-1/2 qt. Lower 2 qt.						
1	Double boiler	Upper 2 qt. Lower 3 qt.						
1	Sauce pan	1 pt.						
1	Skillet, with lid	10"						
1	Casserole	1-1/2 qt.						
1	Muffin pan	6 cups						
2	Cake pans, layer	9"x9"x1-1/2"						
1	Pan	9"x9"x2-1/2"						
1	Bread pan	9"x5"x2-1/2"						
1	Large pan, utility tray	13"x16"x1"						
2	Pie pans	5"						
2	Cooling racks	11"x11"						
4	Custard cups	3/4 cup						
1	Bowl	3 qt.						
2	Bowls	2 qt.						
2	Bowls	1 qt.						
1	Sifter	2-1/2 cup						
1	Pastry blender							
2	Rotary eggbeaters							
1	Sieve	5"						
1	Rolling pin	10"						
1	Combination cookie & biscuit cutter	1-1/2"						
2	Paring knives	2-1/2" blade						
2	Paring & slicing knives	4" blade						
1	Knife (butcher, cutting & serving	8" blade						
4	Case forks, 4 tines							
2	Measuring cups, glass							

*Dougherty, Ardythe Wilson. Determining a Standard Set of Utensils for a Homemaking Laboratory, Oregon State College Thesis, 1942.

No.	Article	Size	Lessons					Final Decisions
			1	2	3	4	5	
2	Sets of nested measuring cups, metal (Mary Ann's)							
4	Tablespoons							
4	Teaspoons							
2	Sets of measuring spoons (4 each)							
4	Case knives							
1	Spatula	7" blade						
1	Spatula	4" blade						
2	Wooden spoons	13" long						
2	Dish pans							
1	Tray	12"x15"x1/2"						
1	Salt shaker							
1	Vegetable brush							
1	Sink strainer							
2	Rubber scrapers							

List of china, glass, and silver used in lessons

[illegible]

Directions for checking list

I. Correction of the list

With a red pencil draw a line through any article not possible to secure. With a red pencil change the size of any utensil substituted. For example, if a pie pan 7" in diameter is substituted, write in 7" in the space where 5" is typed.

II. On the back of this sheet give data requested concerning each lesson involving a meal taught.

III. For each lesson taught, check as follows:

1. Opposite each item in the equipment list check x those used. Check 0 those not used.
2. Below the list write in other pieces of equipment used which you wish to store in the unit kitchen.

IV. After five lessons check in column "Final Decisions":

- * Would include as specified
0 Omit entirely
() Modify, indicating how in brackets. For example, after sauce pan, you might choose to have a 1/2 pt. sauce pan, in which case you would mark it (1/2 pt).

Storage in the Unit Kitchen

Part II. To determine the food supplies desirable to store in a unit kitchen.

This list need not be limited to food supplies stored during the checking for the five meals in Part I. It should represent the best judgment of the teacher as to desirable practice for storing food supplies in normal times, from day to day. It can be assumed that there is other food storage in the same room in which unit kitchens are located.

Supplies of Food

Staples, list and give approximate amount to be stored.

Flour
Sugar
Salt

Food, other than staples, list

Part III. To determine other items desirable to store in the unit kitchen. (Draw a line through those items you do not wish stored in the unit kitchen.)

Item	Number to be stored	Desired type of storage
Dish cloths		
Dish towels		
Hand towels		
Holders		
Lunch cloths		
Table cloths		
Napkins, cloth		
Napkins, paper		
Place mats		
Other items, list		

Personal belongings

Should a girl's notebook and textbooks be stored in a unit kitchen while she is working there? Yes___ No___

Should a girl's purse likewise be stored? Yes___ No___

If yes, what suggestions do you have for type of storage?

Comments on the Study. Please add any comments which you wish to make here or on the back of this sheet.

TABLE I

Number of Utensils That Were Not Available

Utensil	Regions									
	Total		Central		North Atlantic		Pacific		Southern	
	No.	%	No.	%	No.	%	No.	%	No.	%
1 Double boiler	2	2.1	1	4.0	--	--	--	--	1	4.3
1 Double boiler	21	21.5	6	24.0	2	8.0	6	24.0	7	30.1
1 Sauce pan	1	1.0	1	4.0	--	--	--	--	--	--
1 Skillet	5	5.1	--	--	2	8.0	2	8.0	1	4.3
1 Casserole	5	5.4	--	--	1	4.0	1	4.0	3	12.9
1 Muffin pan	1	1.0	--	--	--	--	1	4.0	--	--
2 Layer cake pans	4	4.2	--	--	--	--	1	4.0	3	12.9
1 Loaf pan	11	11.0	3	12.0	4	16.0	4	16.0	--	--
1 Bread pan	6	6.2	2	8.0	1	4.0	1	4.0	2	8.6
1 Utility tray	11	11.1	1	4.0	6	24.0	3	12.0	1	4.3
2 Pie pans	3	3.1	--	--	--	--	2	8.0	1	4.3
2 Cooling racks	8	8.3	2	8.0	--	--	2	8.0	4	17.2
4 Custard cups	3	3.1	--	--	1	4.0	1	4.0	1	4.3
1 Bowl, 3 qt.	6	6.2	1	4.0	1	4.0	1	4.0	3	13.0
2 Bowls, 2 qt.	--	--	--	--	--	--	--	--	--	--
2 Bowls, 1 qt.	1	1.0	--	--	1	4.0	--	--	--	--
1 Sifter	2	2.0	--	--	2	8.0	--	--	--	--
1 Pastry blender	15	15.3	3	12.0	5	20.0	3	12.0	4	17.2
2 Rotary egg-beaters	1	1.0	--	--	--	--	1	4.0	--	--

Utensil	Regions									
	Total		Central		North		Pacific		Southern	
					No.	%				
	No.	%	No.	%	No.	%	No.	%	No.	%
1 Sieve	1	1.1	--	--	--	--	--	--	1	4.3
1 Rolling pin	1	1.1	--	--	--	--	--	--	1	4.3
1 Cookie cutter	1	1.0	--	--	1	4.0	--	--	--	--
2 Paring knives 2-1/2"	3	3.1	2	8.0	--	--	--	--	1	4.3
2 Paring knives 4"	13	13.2	5	20.0	4	16.0	1	4.0	3	12.9
1 Knife, 8"	5	5.6	1	4.0	2	8.0	--	--	2	8.6
4 Case forks	2	2.0	--	--	2	8.0	--	--	--	--
2 Measuring cups	3	3.0	1	4.0	2	8.0	--	--	--	--
2 Sets Mary Ann's	27	27.2	6	24.0	8	32.0	10	40.0	3	12.9
4 Tablespoons	1	1.0	1	4.0	--	--	--	--	--	--
4 Teaspoons	3	3.1	1	4.0	1	4.0	--	--	1	4.3
2 Measuring spoon sets	6	6.0	--	--	6	24.0	--	--	--	--
4 Case knives	4	4.1	--	--	3	12.0	--	--	1	4.3
1 Spatula, 7"	1	1.0	--	--	--	--	1	4.0	--	--
1 Spatula, 4"	31	31.2	11	44.0	12	48.0	5	20.0	3	12.9
2 Wooden spoons	--	--	--	--	--	--	--	--	--	--
2 Dish pans	9	9.0	3	12.0	2	8.0	4	16.0	--	--
1 Tray	9	9.1	2	8.0	1	4.0	4	16.0	2	8.6
1 Salt shaker	5	5.1	1	4.0	2	8.0	1	4.0	1	4.3
1 Vegetable brush	5	5.1	--	--	2	8.0	1	4.0	2	8.6
1 Sink strainer	16	16.1	3	12.0	3	12.0	8	32.0	2	8.6
2 Rubber scrapers	32	32.6	5	20.0	10	40.0	9	36.0	8	34.4

TABLE II

Number of Utensils Teachers Wished to Modify as to Number

Utensil	Regions				
	Total	Central	North Atlantic	Pacific	Southern
2 Double boilers					
Upper 1-1/2 qt.					
Lower 2 qt.	6	--	2	2	2
2 Double boilers					
Upper 2 qt.					
Lower 3 qt.	2	--	--	1	1
2 Sauce pans					
1 pt.	5	2	2	1	--
2 Sauce pans					
3-6 cups	5	1	3	1	--
2 Casseroles	2	1	1	--	--
*2 Muffin pans					
6 cups	13	6	7	--	--
2 Muffin pans					
8 cups	1	--	--	1	--
1 Layer cake pan	3	1	--	2	--
2 Utility trays	2	1	1	--	--
1 Pie pan, 5"	5	2	2	1	--
1 Pie pan, 6-8"	5	3	1	--	1
*1 Cooling rack	13	4	3	2	4
6 Custard cups	5	1	3	--	1
2 Custard cups	1	--	1	--	--
2 Bowls, 3 qt.	1	--	1	--	--

*Starred utensils indicate those utensils modified by ten or more teachers.

Utensil	Total	Regions			
		Central	North Atlantic	Pacific	Southern
1 Bowl, 2 qt.	4	3	--	--	1
3 Bowls, 2 qt.	1	--	--	--	1
1 Bowl, 4-6 qt.	1	--	1	--	--
1 Bowl, 1 qt.	7	3	2	--	2
2 Sifters	2	--	1	1	--
*1 Rotary eggbeater	27	7	8	5	7
2 Sieves, 5"	2	1	--	--	1
2 Rolling pins	3	2	--	--	1
2 Cookie cutters	5	1	1	2	1
1 Paring knife 2-1/2"	3	1	1	--	1
3-4 Paring knives 2-1/2"	3	--	3	--	--
1 Paring knife, 4"	3	--	2	--	1
2 Case forks 4 tines	6	2	4	--	--
3 Case forks 4 tines	1	--	--	--	1
2 Case forks 2-3 tines	3	1	2	--	--
1 Measuring cup, glass	5	1	1	1	2
4 Measuring cups, glass	2	--	1	1	--
1 Set Mary Ann's	5	2	1	1	1

Utensil	Regions				
	Total	Central	North Atlantic	Pacific	Southern
2 Tablespoons	8	5	2	--	1
3 Tablespoons	1	--	--	--	1
2 Teaspoons	6	2	1	--	3
5-8 Teaspoons	3	1	1	--	1
1 Measuring spoon set	3	--	2	1	--
4 Measuring spoon sets	1	--	--	1	--
*2 Case knives	11	5	4	2	--
2 Spatulas, 7"	9	2	5	2	--
4 Spatulas, 4"	1	--	1	--	--
*1 Wooden spoon	10	2	3	2	3
1 Dish pan	8	--	5	1	2
3 Dish pans	1	1	--	--	--
*1 Rubber scraper	10	1	3	4	2

TABLE III

Methods Used in Preparing 2237 Dishes

	Regions				
	Total	Central	North Atlantic	Pacific	Southern
VEGETABLES (478)					
Buttered	154	30	39	40	45
Oven-cooked	37	7	17	7	6
Creamed	28	7	5	11	5
Au Gratin	2	--	1	--	1
Fritters	1	--	1	--	--
Salad	173	42	37	49	45
Raw	51	11	8	21	11
Juice	20	9	1	5	5
Molded Salad	12	5	5	2	--
POTATOES (162)					
Baked	48	10	10	19	9
Mashed	40	12	4	13	11
Scalloped	19	7	7	4	1
Salad	17	5	4	3	5
Parsley Buttered	16	3	5	4	4
Creamed	15	5	2	2	6
Au Gratin	4	3	1	--	--
Deep Fried	3	--	--	1	2
BREADS (374)					
Bread or Toast	99	26	24	19	30
Muffins & Popovers	80	18	30	16	16
Biscuits	73	15	13	22	23
Rolls	71	31	12	14	14
Sandwiches	31	11	5	9	6
Corn Bread	10	2	2	2	4
Waffles, Griddle Cakes, Dumplings	10	5	4	--	1

		Regions				
		North				
		Total	Central	Atlantic	Pacific	Southern
DESSERTS (303)						
Cake -						
Gingerbread	58	18	12	17	11	
Cookies	45	11	10	11	13	
Junket, Custards	44	17	12	2	13	
Cornstarch						
Puddings,						
Tapioca	39	6	15	12	6	
Pastry	32	11	3	12	6	
Ices, Sherbets,						
Ice Cream	30	8	3	8	11	
Cobbler	29	12	8	4	5	
Gelatine Desserts	26	7	4	10	5	
BEVERAGES (253)						
Milk	180	61	31	51	37	
Cocoa	73	22	26	10	15	
FRUIT (238)						
Fresh (Cup and						
Salad)	135	39	31	33	32	
Canned	31	7	5	16	3	
Juice	24	7	3	2	12	
Stewed	20	9	8	2	1	
Baked	20	4	6	3	7	
Molded	8	2	4	1	1	
MEAT (143)						
Fried	44	7	6	16	15	
Oven-cooked						
Meat Loaf	30	8	4	9	9	
Others	40	12	6	10	12	
In Casserole	18	7	2	5	4	
Creamed	1	--	--	--	1	
Other - Lunch Meat	3	1	--	1	1	
Spam	7	3	2	1	1	
FISH (40)						
Oven-cooked	17	1	2	8	6	
Salads & Cocktails	8	3	--	2	3	
Casserole, or						
Patties	7	3	1	2	1	
Fried	4	3	1	--	--	
Croquettes	4	--	--	--	4	

		Regions				
		North				
		Total	Central	Atlantic	Pacific	Southern
<hr/>						
CHICKEN	(17)					
Creamed		7	4	1	2	--
Fried		5	--	--	--	5
Baked		3	1	--	1	1
Salad		1	--	--	--	1
Souffle'		1	--	--	--	1
EGGS	(61)					
Scrambled		20	6	4	1	9
Omelet		10	--	4	1	5
Stuffed		8	1	4	--	3
Creamed		7	--	2	3	2
Poached		6	4	1	--	1
Baked		5	1	2	1	1
Fried		5	1	2	--	2
CASSEROLES						
Without Meat (58)						
Macaroni with						
Cheese		19	3	6	7	3
Rice - Spanish		15	3	4	4	4
Spaghetti with						
Cheese		13	5	3	5	2
Noodles		7	5	--	1	1
Macaroni with						
Tomato Sauce		4	--	--	3	1
SOUP	(55)					
Cream		45	17	12	13	3
Vegetable		9	--	2	4	3
Consomme'		1	--	--	--	1
CEREALS	(34)					
Cooked		28	11	8	2	7
Prepared		6	1	3	--	2
LEGUMES	(11)					
Baked Beans		7	4	1	1	1
Soy Beans		2	1	1	--	--
Chili Beans		2	--	--	2	--

	Regions				
	Total	Central	North Atlantic	Pacific	Southern
CHEESE					
American & Cottage (7)					
Salad	5	2	2	1	--
Fondue	2	--	2	--	--
Total	2237	621	508	564	544