

AN ABSTRACT OF THE THESIS OF

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Title--Recommendations for a Standard Set of Kitchen Utensils
-----for a Home Management House at Oregon State College.

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The problem undertaken in this study was that of determining a basic list of necessary kitchen utensils and, also, a supplementary list of desirable kitchen utensils for a home management house at Oregon State College.

The method of procedure used in making the study was as follows:

1. A sample of menus from two home management houses was selected for analysis. These were equivalent to a full school year's menus and included seasonal variations.
2. Cards were then prepared for each food or type of food served. On these cards was listed the processes necessary to prepare each food. Utensils which were necessary and, also, those which were desirable to carry out the processes listed were included. Amounts of food necessary to serve 12 people were used as a basis for calculating sizes of utensils.
3. The group of utensils needed to prepare each meal was tabulated as a unit. Care was taken that the identity of each meal was maintained so that later adjustments in determining substitute utensils could be made.

When it was discovered that frequencies fell in definite patterns, the menus from 150 days of the original 224 days were selected for final analysis.

Frequency summaries were made to show the total number of times (a) each utensil was needed once only, (b) two or more utensils of the same kind or size were needed, (c) a utensil was used, washed, and then re-used, and (4) the number of times it was desirable but not essential to use a utensil.

The data for each group of utensils were analyzed with reference to the following:

1. Points considered when types, sizes, and numbers of utensils were assigned to the food processes.

3. Determination of possible adequate substitutes for all utensils needed.

4. The determination of basic and supplementary lists for each group of utensils.

Utensils placed on the supplementary list were further analyzed from the standpoint of their relative importance. This list was then divided into the supplementary utensils of greatest importance, those of secondary importance, and those of least importance.

As a result of this analysis, the basic list is composed of the kitchen utensils found necessary and the supplementary list is composed of those kitchen utensils found desirable for a Home Management House at Oregon State College.

RECOMMENDATIONS FOR A STANDARD SET OF KITCHEN
UTENSILS FOR A HOME MANAGEMENT HOUSE
AT OREGON STATE COLLEGE

by

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CHAPTER I

INTRODUCTION TO THE PROBLEM, DESCRIPTION,
AND OBJECTIVES OF THE HOME MANAGEMENT HOUSES

Introduction

Since the writer has served as supervisor of a home management house at Oregon State College, her attention has been called to the need for adequate kitchen utensils for meal preparation. As a result of this need and because of her interest, she has undertaken to determine in this study the basic need for type, number, and size of utensils needed for the preparation of meals in a home management house at Oregon State College. As an outcome of this analysis, the writer has attempted to set forth specific recommendations for a basic list and also for a supplementary list of desirable kitchen equipment for the home management house.

Home Management Houses¹

The general purposes and the organization of the home management houses are summarized in the following paragraphs.

1. For a more complete description of the houses, the reader is referred to Cameron. (pp. 3-8)

Home Management House is a five-credit course, required of all seniors in Home Economics at Oregon State College. Three houses, Dolan, Withycombe, and Kent, are maintained to accomodate students enrolled in this course. Each house, which was a former residence, is different in size, location, and arrangement.

Usually six students, a supervisor, and frequently a student supervisor reside in each of these houses for a period of approximately six weeks. A baby is cared for in each house.

The majority of the girls carry an average of 16 term hours, or a range of from 13 to 18 term hours, while they reside in the house. Since the girls carry a fairly heavy schedule, it is important that the house be equipped and arranged so as to allow the students to do the work as efficiently as possible. Good management of time, money, and energy is stressed. An attempt is made to maintain high standards in every phase of the several homemaking activities.

The homemaking activities in the home management house are divided into the following: (1, pp. 5-7)

"Housekeeper: Cares for the entire second floor, keeps cleaning closets and equipment on that floor in proper condition, helps clear table, stacks dishes, dries and puts away glasses and silverware.

"Assistant Cook: Assists with last-minute meal preparation, sets table, waits on table, answers door bell and telephone during meals, keeps dining room shelves and linen storage in order, cleans and keeps silver in order, washes dishes, cares for sink, table, and refrigerator.

"Cook: Plans meals and orders food, checks orders, stores food, and prepares meals. Cares for ranges, shelves, floor, windows, and general condition of the kitchen. Keeps kitchen neat and in order while preparing meals, stores left-over food, keeps all bills, makes out food accounts, and summarizes food costs at close of week.

"Host: Cares for the entire first floor with the exception of kitchen and service area, keeps all equipment used in this area in good condition, directs extra help, invites guests, and cares for general welfare of the family.

"Child Director: Assumes all responsibility for care of baby, checks daily with supervisor and advises immediately of any irregularity in child's condition. Makes menus for baby and prepares daily food which is stored in special shelf in refrigerator. Keeps child's dish-closet and food in order, sterilizes dishes, and cares for nursery. Bathes and dresses and feeds child, and puts it to bed. Permits only those free from colds and infections to enter nursery, and then not over two at a time. Schedules other girls to care for the baby when she is away from the house. Keeps all records for baby and turns in records at end of week."

"Laundress: Washes, irons, mends, stores, and cares for all baby clothing. Launders bath towels and luncheon sets. Collects, sends out, and checks in all other laundry. Keeps all linen closets in order. With aid of housekeeper changes all beds once a week. Removes soiled linen and supplies fresh linen for entire house. Cares for laundry unit."

Guest meals are served weekly. These may be breakfasts, luncheons, or dinners. However, guest dinners or luncheons are most frequently served. The Cook and Assistant Cook receive help from other students residing in the house when guest meals are served.

The home management house differs from the average home in many respects. Some of these differences are listed below:

1. The "family" consists of from six to eight adults (all women) and one small child, usually under one year of age.
2. Guest meals are served every week, which is probably more often than the average family entertains.
3. All girls are attending regular college classes in addition to carrying on the activities of the home management house.
4. The girls reside in the house for a short period of time and, therefore, have a short time for assuming the responsibility for each duty.
5. Each girl cares for one major responsibility at a time, rather than assuming entire responsibility for the house and its related activities.
6. The inexperience of the girls in comparison to that of the average homemaker with a family of com-

parable size is an important factor. (4, p. 15)

Objectives of the Home Management Houses:

An evaluation of the home management houses as set forth by Sinnard (5, pp. 35-55) include the following:

Necessary objectives:

1. To provide a close approach to home situation in which girls may apply the technical information and training that they have received in other courses.
2. To furnish a situation where students get a concept of what constitutes a harmonious and agreeable home.
3. To train the students in good house-keeping.
4. To train the students in good household management.
5. To train the students in hospitality practices.
6. To provide a place where the students of Child Development may observe the baby.
7. To demonstrate good ideas in house planning and furnishing.
8. To provide a place for hospitality practices.
9. To demonstrate cooperators' recommendations for representing a definite income level in the Home Management House.

Desirable Objectives:

1. To provide a place where girls receive guidance in personal problems, including marriage and the home.

2. To demonstrate the use of the very best household equipment.
3. To provide publicity for the School of Home Economics.
4. To give students opportunity to further their own friendships.

CHAPTER II

REVIEW OF LITERATURE

Research pertaining to Home Management Houses and selected studies related to utensils was read for the purpose of finding data pertinent to this study. Although several studies have been made on various phases of the home management house, none of them included studies on home management house kitchen utensils in particular.

Cameron (1, pp. 3-8) gives a fairly complete history of the home management houses at Oregon State College. Her description of ways in which the homemaking activities of the home management houses are divided into duties is reviewed. Although a list of kitchen equipment was given (1, p. 39 and p. 41), it was incomplete and was only a typical set of equipment found in the houses at the time of her study and was included to show the types and approximate numbers of utensils stored in a particular cupboard.

Carter's (2, p. 25) thesis on a study of practices of married graduates of the school of Home Economics at Oregon State College shows that a great majority of these graduates use electricity or gas for cooking fuel. It will be interesting to note that this conforms to the present practice with reference to the kind of fuel used

in the Home Management Houses at Oregon State College.

Dougherty (3) now has a study in progress which will set forth standards for kitchen utensils in foods laboratories of secondary schools. At the time this was written, Dougherty's results were not available.

Horning (4) found in her study that electricity was the most common type of fuel used for cooking in the homes of students living in the home management houses. She also found that the girls had "occasionally" prepared or assisted in the preparation of family meals. These same practices applied in the purchase of food for the family. (4, pp. 14-15)

Sinnard (5, pp. 35-55), in her study reported the composite judgments of graduates, faculty members, and graduate students in Home Economics with reference to the objectives of the home management houses. Two of these objectives for the Home Management Houses have a direct bearing on this study. Of those cooperating in her study, 15 per cent felt it "necessary" and 37 per cent felt it "desirable" to demonstrate the use of the very best household equipment. An additional 17 per cent felt that it "should be included unless it added to the cost of the house."

The cooperators recommended the following concerning hospitality practices for guest meals served in

the home management house:

1. Total of 12 people seated at one large table.
2. Total of 20 people served at small tables.
3. Total of 23 people served at tray luncheons.

Wilson and McCullough (6) made a study of utensils needed for the farm kitchen. "The goal was to determine the minimum number, quality, and size of utensils needed to enable a farm woman to prepare food on a year-round basis with reasonable convenience and efficiency." (6, p. 2) In preparing this list, they included only the equipment needed for the preparation, serving, and clearing away of meals served in the western Oregon farm kitchen. Experimental work was carried out to determine the most suitable sizes of utensils for various processes. Certain standards were set up by their study. The writer has referred to and made use of these standards throughout her study.

CHAPTER III

PURPOSE AND LIMITATIONS OF THE STUDY

The purpose of this study is to analyze needs with reference to kitchen utensils used in meal preparation at the home management houses at Oregon State College, and to set forth recommendations concerning types of utensils, size, and number of each. Shape has been considered only where that has a bearing on the type of food cooked in the utensil. Only those utensils needed in the preparation of meals for twelve persons or less were included.

Suggestions for the utensils needed for preparing the baby's food were not included. Recommendations for these have been made by Cameron. (1, p. 38)

Utensils needed when food is prepared by the girls for their own enjoyment, such as making candy, have not received special consideration.

The problem may, therefore, be stated as follows:

1. The determination of needs with reference to kitchen utensils in the home management houses at Oregon State College.
2. The preparation of specific recommendations for kitchen utensils and the classification of these utensils according to:

- a. utensils needed in preparing food for twelve adults,
- b. additional utensils which are desirable.

It is hoped that the recommended set of utensils will prove valuable as a guide for supplementing utensils already found in the kitchens of the home management houses at Oregon State College, and also, that in the event another house is furnished, this list or set of utensils will be useful as a guide.

CHAPTER IV

METHOD OF PROCEDURE AND ANALYSIS OF DATA

Part I. General ConsiderationsAssumed Equipment

In making this study, the writer assumed that certain pieces of basic equipment were to be found in the kitchens of the home management houses. This equipment which is described below was, therefore, not checked for frequency of use, but was considered available to supplement the utensils analyzed in this study:

1. Electric or gas range with oven and broiler. According to the Horning thesis (p. 14), electricity was the most common type of fuel used for cooking in the homes of the girls living in the home management houses. Carter's study (p. 25) agrees with the Horning findings with reference to the fuel used. Carter's subjects included married Home Economics graduates and Horning's included parental homes of girls who were undergraduates.

These two studies show that the majority of Home Economics students come from homes which use electricity as cooking fuel and probably will go into homes that use this same type of fuel.

2. Electric or gas mechanical refrigerator with freezing trays, ice cube trays, and a hydrator.

3. Sink. Either a divided sink or a sink of suitable size for two pans, one for washing and one for rinsing dishes, was assumed. Either the divided sink or the dish pan would be available for the preparation of some fruits and vegetables.

4. Two dish pans selected to fit the size of the sink.

5. A small garbage can for the disposal of waste from each meal. Large garbage cans are provided and cared for by the college garbage service. The writer suggests that the garbage can be of sufficient size to care for a regular 3-gallon pail container. The buckets could be easily replaced and are adequate for caring for the garbage from a meal which includes such bulk as corn husks and cobs, watermelon rinds, etc.

6. Waste paper basket. Since oil furnaces and electric or gas ranges are used, it is necessary to burn all paper in the fire place. Containers must, therefore, be provided to care for waste paper.

7. Kitchen scales. Students in the home management house kept accounts of the amount of money spent during each week. It was necessary, therefore, that they weigh certain items, such as potatoes and flour, that

were purchased from large amounts on hand.

General Procedure

Method of Selecting the Menus Used in the Analysis:

To determine the type, number, and size of kitchen utensils needed in the Home Management Houses at Oregon State College, a sample of menus actually prepared by students was selected for analysis. Menus for the equivalent of an entire year were selected from two houses.

A sample from each house for the complete school years of 1940 and 1941 was used. To make sure that every season of the year and also each house would be equally represented, menus were selected from the houses as follows:

1st week of the month, 1940 -- Withycombe House

2nd week of the month, 1941 -- Withycombe House

3rd week of the month, 1940 -- Dolan House

4th week of the month, 1941 -- Dolan House

During these periods of time, eight different supervisors were in charge of the houses. Attention should also be called to the fact that each house has a different kitchen and a different set of utensils. The inclusion of these variations should, therefore, insure a fairly representative sample of menus.

Factors in Menu Making

As was shown by the description of home management house duties, each student plans her own meals for the period in which she is cook.

To make sure that students in the home management houses become familiar with certain processes in food preparation, each student cook is required to prepare the following: a roast, hot bread, frozen dessert, pie, cake, coffee, tea, and hot chocolate.

All students have completed courses in either Nutrition or Dietetics before entering the home management house. They are expected to follow good nutritional standards when planning menus. The supervisor checks the menus from the standpoint of good nutrition, interest, attractiveness, and practicability. Students are urged to use the oven for more than one process at a time and to plan their schedule so that there are few last-minute details. Planning for efficient use of stove burners is also stressed.

Students are allowed a moderate amount of money to spend on food (an average of 40¢ per person per day at the time this study was made) and each student was expected to plan and prepare low cost meals for one day

of each week. An allotment of twenty-five cents per person per day was made for low cost menus.

Recipes Used

Recipes used as a basis for determining the procedure in food preparation were selected from Child and Niles (7), "Food Preparation Recipes", when available. Otherwise, they were from "America's Cook Book" compiled by the Home Institute of the New York Herald Tribune. These sources were selected because they are used by the Food Preparation classes at Oregon State College and, also, they are generally used by the students residing in the home management houses.

General Factors Which Were Considered in Specifying the Utensils Needed in the Preparation of Foods:

Factors which influenced the utensils needed are listed below. They were kept in mind as utensil needs were determined.

1. Students attend regular college classes while residing in the home management houses and, therefore, often work on a limited time schedule.
2. Each meal is prepared as an individual unit.
3. More than one student may prepare the meals.
4. The home management house is a college laboratory. High standards of household management are

maintained and it is desirable that students learn to use and care for utensils needed for the various processes of food preparation.

General Plan for the Determination of Utensils
Needed in the Preparation of Foods:

As a means of determining the utensils needed for the preparation of meals included in the selected sample of menus, the writer, wherever possible, grouped foods according to method of preparation. She then prepared a card for each food or group of foods which was served.

On these cards (see Appendix II) the writer listed all processes which were necessary to prepare food. Utensils for carrying out these processes were then grouped into three classifications, as follows:

1. Utensils "necessary" to perform the processes listed.
2. Utensils "desirable but not necessary" that might be used in place of the utensils listed as "necessary". In many cases these were more expensive utensils.
3. Utensils "desirable but not necessary" that would be used in addition to the utensils listed as "necessary."

A staff member of the Foods and Nutrition Department of the Oregon State College (11) checked the cards for accuracy of process analysis and the utensils listed.

An attempt was made to determine variations in

the utensils needed for preparing meals for the home management house "family" as contrasted with guest meals, but after carefully analyzing the data which were gathered, it was found that the same types of utensils were needed for both "family" and guest meals. Therefore, it was decided that utensils sufficiently large to care for twelve people at guest meals were also satisfactory for all other meals.¹ This decision was also made because it did not seem desirable to set a standard before girls which required special utensils to care for guests. Also, it did not seem advisable to inconvenience the girls during preparation of guest meals by not having sufficiently large utensils.

In addition to the guest meals regularly served, once or twice a year special meals are served either on trays or to groups seated at small tables. According to the Sinnard study (p. 52), the recommendations for numbers to be served at the home management house are as follows:

Seated at small tables -- 20 people

Tray luncheon -- 23 people

1. Those cooperating on the Sinnard study (p. 52), recommended that 12 be the maximum number seated at a large table for a guest meal.

In this study no attempt has been made to recommend utensils needed for these meals because large equipment may be borrowed either from the other home management houses or from the College stockrooms.

Method of Tabulation

The group of utensils needed to prepare each meal was tabulated as a unit. Care was taken that the identity of each meal was maintained so that later adjustments based on the food actually prepared could be made if necessary.¹ In making these tabulations, it was assumed that certain utensils which were needed for more than one preparation in a given meal would be used, washed, and re-used.

It was found by scanning the tabulations for successive weeks, that the various frequencies fell in definite patterns. Therefore, menus for 150 days were selected from the original 224 for use in the final analysis. These menus were equally distributed between the two houses and also included an approximately equal sample from those of the fall, winter, spring, and summer school sessions.

1. Frequencies for various ways of preparing food are summarized in Appendix I.

Part II. Analysis of Specific Data

General Factors Considered when Determining Basic and Supplementary Lists of Utensils

When the foods prepared or the processes involved¹ in the preparation of the foods (included in the 450 sample menus) were assigned to the various utensils, a frequency of use list was made for each group of utensils. These lists appear as tables in the following analyses.

Frequency of use was one of the fundamental considerations when recommending that utensils be placed on the basic or on the supplementary list. The basic list includes the utensils which were necessary in the preparation of foods after all possibilities for adequate substitutes were eliminated. All of the utensils which were not placed on the basic list were placed on a supplementary list.

When the frequency of use was not great and another size or a different utensil would serve the purpose adequately and was available for use, a substitute utensil was chosen and the one originally listed was

1. For typical processes assigned to various types of utensils see Appendix II.

placed on the supplementary list.

Inexpensive utensils or duplicate utensils that were time savers or were needed frequently were included on the basic list although it would have been possible to prepare the food without them.

After the utensils were evaluated to determine their placement on the basic or supplementary list, those included on the supplementary list were further analyzed from the standpoint of their relative importance. This list was then divided into three groups:

Group I includes those most needed to supplement the utensils placed on the basic list. If utensils in addition to those on the basic list are purchased, the purchase of those is recommended.

Group II includes the utensils that were considered second in importance. It is recommended that they be purchased only after those included in Group I have been added to the equipment.

Group III includes those of least importance.

Analysis of Specific Data Relative to the
Utensils Listed in the Groups

In the following pages, each classification or group of utensils will be considered from the standpoint of the following:

1. Definition of terms.
2. Points considered when the foods prepared were assigned to the utensils listed.
3. Frequency of use for utensils.
4. Determination of possible satisfactory substitutes for the utensils listed.
5. Recommendations for basic and supplementary lists of kitchen utensils. The supplementary list of utensils was classified into three groups, according to the following:
 - a. Those which should be purchased as soon as possible after the basic list is completed.
 - b. Those which should be purchased soon if possible, and
 - c. Those that are less important

Sauce Pans, Pots, Kettles, Pans, and Double Boilers

Definition of terms: As used in this study, the following distinctions have been made:

Sauce Pan -- a sauce pan has a single handle, whereas

Pots -- Pots have two handles, one on either side. (10, p.168)

Kettle -- Kettle is the term used to describe the type of cooking utensil which has a bail handle.

Pans -- Pans have no handles and are rather shallow.

Double boilers -- Double boiler is a standard term.

Points considered when the foods prepared were assigned to the various size of sauce pans, pots, kettles, pans, and double boilers

1. The total amount in bulk or space needed for each food when placed in a cooking utensil.

2. The extent to which the food "creeps up" when cooking. Wilson and McCullough's standard for margins was used. This is as follows: "For milk and other liquids which 'creep up' when boiling, a minimum of 100 per cent margin over contents is allowed. For liquids which do not 'creep up', a minimum of 50 per cent margin" is allowed. (6, p. 87)

3. The use of the minimum, adequate sizes of sauce pans, etc., when preparing such foods as sauces that cling to the sides of pans, thus preventing an unnecessary waste of food which could result from spreading sauce over a large surface.

4. The kind of handle most convenient for managing the type or consistency of food cooked in a utensil.

The sauce pan type of handle was selected when:

Foods required stirring during the cooking processes, especially thick consistencies.

Hot liquids needed to be drained from food -- such as in cooking potatoes.

The kettle was selected when:

Deep fat frying was done -- the kettle type of handle is not so likely to be hit accidentally, thus reducing possibilities for accidents.

When the weight of hot food is great, the weight is more easily carried.

Frequency of use

The utensils were used as is shown in the table on the following page.

Table I

Frequency of Use List for Sauce Pans, Pots, Kettles,
Pans, and Double Boilers Needed in the Preparation of 450 Meals
Served in the Home Management Houses at Oregon State College

Key: a. used once only d. desirable but not
 b. used two utensils necessary to have
 c. washed and re-used an additional utensil

Type and Capacity	a	b	c	Frequency of use d	Total
Sauce Pans					
1 quart	57		2		59
2 quart	102	1	6		110
3 quart - flat	39				39
3 quart - deep	116	5	7		133
4 quart	122	2	7		133
Pot - 4 quart	40				40
Kettles					
6 quart	67		6		73
8 quart	2			16	18
Asparagus cooker				14	14
Deep fat frying 3 quart				4	4
Pans (without handle)					
$\frac{1}{2}$ pint	29		5		34
1 pint	11				11
$1\frac{1}{2}$ pint	45		3		48
3 quart	41				41
Double Boilers					
1 quart	3				3
$1\frac{1}{2}$ quart	5		2	77	84
2 quart	68		1	8	77
$2\frac{1}{2}$ quart	14		1	28	43
4 quart	31				31

Determination of satisfactory substitute utensils

Although the frequency tables were based on the most suitable utensil for each process (Table I), the raw data were carefully analyzed to determine possibilities for finding suitable substitute utensils which were available for use and, thereby, reduce the necessary list to a minimum. Through this analysis it was found that several utensils could be dropped from the necessary or basic list and be transferred to the "desirable but not necessary", or supplementary, list because satisfactory substitutes were available.

The following reassignments for use of utensils were made. Although the $1\frac{1}{2}$ -pint pan was used a total of 48 times, an examination of the raw data showed that a 1-quart sauce pan was available for use during all of the meals in which the $1\frac{1}{2}$ -pint pan was assigned. It was also found that the type of food to be cooked could be cared for satisfactorily in the 1-quart size sauce pan. The frequencies (45 and 3, see Table I) for the $1\frac{1}{2}$ -pint pan were then added to frequencies for the 1-quart sauce pan (57 and 2). These frequencies were then changed to 102 for those used once only and 5 for those washed and re-used, making a total of 107 frequencies for the 1-quart sauce pan.

On the basis of a similar process in analysis, the following revisions were made in the foods assigned to the various utensils:

The 3-quart flat and 3-quart deep sauce pans were both included in the basic list because there was no adequate substitute available for either. The processes assigned to the 2-quart sauce pan were transferred to the available 3-quart pan, and the 2-quart pan was placed on the supplementary list of utensils.

The flat 3-quart sauce pan (or the 4-quart sauce pan or the 4-quart pot was available when a second 3-quart deep sace pan was listed (Table I). The second 3-quart deep sauce pan was then transferred to the supplementary list.

The 4-quart sauce pan was needed as there was no adequate substitute available. Therefore, it was placed on the basic list.

The four-quart pot was also placed on the basic list because no adequate substitute was available. This pot was also found useful as a substitute when additional pans were eliminated from the basic list.

The writer also found by conference with students in a home management house that this was a very popular size and type of utensil.

The eight-quart kettle was placed on the basic list as it could be substituted for the six-quart kettle, and also because the six-quart kettle would be too small to care for the processes assigned to the eight-quart kettle adequately.

The use of the asparagus cooker is very seasonal. It was found in examining the raw data that an adequate substitute was available at all times. The writer, therefore, recommended that this be placed on the supplementary list of utensils, to be purchased only when the other supplementary utensils are very nearly complete.

Although the deep-fat frying kettle appeared on the list as being used only four times, it was possible that the use may have been limited because a special kettle was not provided for the purpose of deep-fat frying. However, from the frequency of use listed and because that was not an essential type of cookery, this type of kettle was placed on the supplementary list. A 3-quart kettle was recommended as being a desirable size.

The one-half pint pan was put on the basic list. The writer recommends that it be sufficiently wide to prevent tipping easily. It was used most often for melting fat.

As there was no adequate substitute available, the three-quart pan was placed on the basic list.

The processes originally assigned to the one-pint pan could be cared for by the $\frac{1}{2}$ -pint pan, alone or in combination with a small bowl, or by the one-quart sauce pan. A small frying pan could be substituted in some cases. Therefore, this pan was placed on the supplementary list of "desirable but not necessary" equipment.

The infrequent use of a one-quart double boiler did not warrant the inclusion of it on a basic list. A small pan or the double boiler provided for the preparation of food for the baby could be substituted.

By scanning the raw data, it was found that a larger double boiler or a sauce pan of comparable size was available and a suitable choice when the $1\frac{1}{2}$ -quart double boiler was listed as being used. Therefore, it was placed on the supplementary list.

It was recommended by the writer that the 2-quart double boiler be placed on the supplementary list to be purchased if possible. Although an adequate substitute was available, it seemed desirable to have two double boilers of the smaller sizes, if possible. She recommended that this be a deep double boiler especially

suited to beating food with a rotary beater or the beater from the electric mixer. This would be adapted to the cooking of such foods as seven-minute icing.

It was found that only one of the smaller double boilers was necessary. The writer therefore recommended that the larger of these (the $2\frac{1}{2}$ -quart) be chosen because it could be used partially full and a smaller one would be more difficult to use when overcrowded.

The 4-quart double boiler was included in order to provide an adequate utensil for hot chocolate, soup, etc., when large numbers of people were served or when second helpings were served.

Since lids are important to the cooking of many foods, it is assumed throughout this study that each sauce pan, pot, and kettle will have a lid that fits well.

Recommendations for basic and supplementary lists

As a result of the preceding analysis the writer has set forth the following recommendations for sauce pans, pots, kettles, pans, and double boilers.

Basic List

Sauce pans

1 quart
 3 quart -- flat
 3 quart -- deep
 4 quart

Pots

4 quart

Kettles

8 quart

Pans

$\frac{1}{2}$ -pint
 3 quart

Double Boilers

$2\frac{1}{2}$ quart
 4 quart

Supplementary List

Sauce pans

* 2 quart

Kettles

* 6 quart
 Asparagus cooker
 3 quart deep-fat
 frying

Pans

1 pint
 * $1\frac{1}{2}$ pint

Double Boilers

1 quart
 * $1\frac{1}{2}$ quart
 ** 2 quart

**Utensils of greatest importance
 *Utensils of secondary importance

Skillets and GriddlesDefinition of terms:

Skillet: A skillet is considered in this study to be a pan suitable for frying.

Griddle: A griddle is a shallow pan for baking or frying thin cakes.

Points considered when types, sizes, and numbers of skillets and griddles were assigned to the foods prepared:

1. The surface area needed to cook the sizes of chops or steaks ordinarily served to twelve people.
2. The bulk and characteristics of food (such as eggs, potatoes, etc.) to be cooked in the utensils.
3. The ease of handling foods to be cooked.
4. The need for cooking all food at once and the possibility for cooking part of it at a time.
5. Types of food best prepared in a skillet and those best prepared on a griddle.

Frequency of use

Frequencies of use for the skillets and griddles listed are given in Table II.

Table II
Frequency of Use List for Skillets and Griddle

Key: a. used only once c. desirable but not necessary
 b. washed and re-used to have an additional utensil

Type and size	Frequency of Use			Total
	a	b	c	
Skillets				
9"	27			27
10"	64	1		65
11"	63	2		65
5"-7"	5			5
Griddle				
12"	12		8	20

Determination of possible substitutes

Skillets: Although three skillets of comparable size were listed as needed in a few cases, two skillets only were placed on the basic list because the roaster was available for substitution whenever the third skillet was needed. The two larger sized skillets (10" and 11") were chosen as they appeared with the greatest frequency in combination and also singly. There were 28 times that two or three skillets were needed for preparing the same meal. A smaller (9") skillet was placed on the desirable list. A choice here is possible because two skillets of the same size would care for the needs, and if they were selected so they would fit together as a "Dutch Oven" the use would be increased. If this is

done, the writer suggests that two 10-inch skillets be chosen. When veal and pork are cooked, lids are used and should be included as important in the list of utensils.

A small skillet (5" to 7") was placed on the supplementary list because of the infrequency of use.

Griddle: A griddle was placed on the supplementary list because two large skillets were available for substitutes. However, the griddle is desirable from the standpoint of ease of handling materials.

Recommendations for basic and supplementary lists for skillets and griddle are as follows:

<u>Basic List</u>	<u>Supplementary List</u>
10" skillet with lid and	* 9" skillet
11" skillet with lid or	* 5" - 7" skillet
Two 10" skillets, with lids	** 12" griddle

**Utensils of greatest importance
*Utensils of secondary importance

Baking dishes

Definition of terms

Casserole: A casserole is a baking dish which may be of heatproof glass, earthenware, or china.

Ramekin: A ramekin is an individual baking dish.

Custard cups: Custard cups are individual baking dishes. In this study it was assumed that they would be made of glass.

Bean Pot: An earthenware baking dish with wide mouth and a lid.

Points considered when types, sizes, and numbers of baking dishes were assigned to the foods prepared

1. The total amount or bulk of food to be baked.
2. The extent to which food increases in size or "creeps up" in cooking.
3. The form or container in which it seemed most desirable to prepare the food -- individually or as a group.
4. The extent to which the baking dish is filled when served.
5. The amount needed for first servings and for second servings.

Frequency of use

The frequencies with which the various types of baking dishes were needed are summarized in Table III.

Table III

Frequency of Use List for Baking Dishes

Key: a. used once only
 b. desirable but not necessary to have an additional utensil or set of utensils

Kind of utensil	Frequency of use		Total
	a	b	
1 $\frac{1}{2}$ quart casserole	15		15
2 quart casserole	47		47
12 ramekins	15	3	18
12 custard cups	12	14	26
Bean pot -- 2 quart		3	3

Determination of possible substitutes for the
 baking dishes listed

Casseroles: The raw data show that two casseroles were needed because this type of food was often prepared for guest luncheons. The writer suggests that two different sizes be included on the basic list so when smaller amounts are prepared, a casserole of the correct size will be available. Experience in living in the house has shown that a larger casserole for first servings and a smaller one for seconds is more satisfactory than a large one with a total capacity equal to the two.

Ramekins: Although sets of 12 are not needed every week, ramekins were included on the basic list because they added variety and simplified food service. A set of 12 was needed when guests were served.

Custard cups: A set of 12 custard cups was included in the frequency table. An analysis of the raw data, however, showed that an adequate substitute (the ramekins) was available. Custard cups were, therefore, placed on the supplementary list.

Bean pot: For a group of eight people, a bean pot of two-quart capacity is recommended, but in this study the bean pot was found to be used infrequently. A casserole was available as a substitute whenever the bean pot was listed for use, and therefore it was placed on the supplementary list.

Recommendations

As a result of these findings, the following utensils are recommended for this group:

<u>Basic List</u>	<u>Supplementary List</u>
Two casseroles	* 12 custard cups
2 quart	
1½ quart	2 quart bean pot
12 ramekins	

*Utensils of secondary importance

Baking Pans

Definition of terms

Standard terms have been used for all the items listed here, except in the case of the "large pan." The specifications for this pan will be discussed under

the heading "Recommendations with reference to the numbers and sizes needed."

Points considered when types, sizes, and numbers of baking pans were assigned to the foods prepared

1. The type or consistency of food to be baked. The amount of material to be baked.
2. The average amount of available oven space.
3. Desirable shape after baking.
Desired thickness of baked product
Desired surface area of product
4. The number of second helpings served.
5. Allowances needed for variations in sizes of ovens.

Frequency of Use

An examination of the raw data shows that the various types of pans were used with the following frequencies (Table IV).

Table IV
Frequency of Use List for the Various Baking Pans

Key: a. used once only d. washed and re-used
 b. used two utensils e. desirable but not necessary
 c. used three utensils to have additional utensil

Kind of pan*	Frequency of Use					Total
	a	b	c	d	e	
Baking sheets	4	25		2	4	60
Shallow baking pan	50	3				56
Muffin pans	55					55
Round cake pans	13	24	3	1	3	74
Square cake pans	13	8				29
Angel cake pan	5					5
Loaf bread pan	16	7				30
Large pan	60	1		4	1	67
Pie pans	2	36				74

Determination of possible satisfactory substitutes
for the utensils listed

At least one of each type of pan was included on the basic list because there was no adequate substitute. In some instances, a second pan of the same type was placed on the supplementary list because a second pan could be substituted. These will be discussed in the next section.

Recommendations

The following recommendations were made with reference to number and sizes of pans needed:

It is recommended that there should be at least two baking sheets selected according to the size of the oven used. They should fit into the oven without

loss of space, and at the same time be convenient to handle. The approximate size suggested by the writer is 12" x 16".

Shallow baking pan: At least one shallow baking pan was needed and a second one was placed on the supplementary list because a baking sheet was available as a substitute. The recommended size of this pan is about 12" x 16" and 1" to 1 $\frac{1}{4}$ " high. The pan should, however, be chosen to fit the oven.

Muffin pans: Pans with enough space for 24 small or medium muffins should be provided because seconds are usually served. It is suggested that there be three pans with space for eight muffins each. One or two providing space for 12 large muffins were placed on the supplementary list as these are also desirable for making individual pastry shells.

Round cake pans: Two pans that are nine inches in diameter, are about 1 $\frac{1}{2}$ " deep, were placed on the basic list. Usually two-layer cakes are sufficiently large, but a third pan was placed on the supplementary list so that three-layer cakes could be made when desired.

Square cake pans: Two pans (9" x 9" x 1 $\frac{1}{2}$ ") are recommended for the basic list.

Angel cake pan: Standards for angel cake pan sufficiently large for an angel food cake made from

one cup of egg whites is $8\frac{1}{2}$ " in diameter and $3\frac{1}{2}$ " deep. Even though the angel cake pan was used infrequently, it was included on the basic list because there was no adequate substitute. The girls are required to make one cake each week. In the menus for 21 weeks which were analyzed, an angel food cake was made a total of but five times.

Loaf bread pan: Two pans were included on the basic list as there was no adequate substitute. It was recommended that a standard sized pan be purchased (about $8\frac{1}{2}$ " x 5" x 4"). (6, p. 92)

Large pan: At least one large pan should be provided. A second one was placed on the supplementary list. This pan should be about 12" x 16" x 3" deep, so that casseroles and ring molds can be placed in it when baking food in them. The writer suggests that this pan be chosen to fit those baking utensils.

Pie pans: Two nine-inch pie pans are necessary. It seemed desirable to have an additional one, so it was placed on the supplementary list.

Recommendations

As a result of the preceding analysis, the following general recommendations have been made. Attention is called here to the advisability of fitting the pans to the specific size of the oven used.

Basic List

2 baking sheets
(about 12" x 16")

Shallow baking pan
(about 1 $\frac{1}{4}$ " x 12" x 16")

Muffin pans
3 pans with 8 small
or medium cups

Two 9" round cake pans
(about 1 $\frac{1}{2}$ " deep)

Two square cake pans
(1 $\frac{1}{2}$ " x 9" x 9")

Angel cake pan
(8 $\frac{1}{2}$ " diameter x
3 $\frac{1}{2}$ " deep)

Two loaf bread pans
(about 8 $\frac{1}{2}$ " x 5" x 4")

One large pan
(about 12" x 16" x 4")

Two 9" pie pans

Supplementary List

1 baking sheet
(about 12" x 16")

*Shallow baking pan
(about 1 $\frac{1}{4}$ " x 12" x 16")

**Muffin pan or pans
(12 large cups)

*One 9" round cake pan
(about 1 $\frac{1}{2}$ " deep)

*One large pan
(about 12" x 16" x 4")

*One 9" pie pan

**Utensils of greatest importance
*Utensils of secondary importance

Other Cookers, Coffee Makers, and Tea Pots

Definition of terms

Other cookers, as used in this study, included the following:

Insulated cooker: An "insulated cooker which consists of an insulated well, equipped with a metal inset pan and a tightly fitted insulated lid" (10, p. 89). This cooker is available only with an electric stove.

Steamer: A steamer is a utensil with two compartments, the lower one holding water and the upper having a perforated bottom through which the steam rises and cooks the food placed in the top.

Dutch Oven is a term used to describe a heavy roaster with a heavy lid.

Roaster is a term used to describe an oblong or oval covered pan which could be used either uncovered for dry roasting or covered for self-basting.

Broiler pan: A broiler pan is a pan with a rack which is used under the oven broiler.

Teakettle: Teakettle is a standard term.

Coffee Makers: A standard term.

Tea pot and ball: A standard term. A tea ball is a container specifically used for holding tea leaves when making tea.

Points considered when the types, sizes, and numbers of utensils were assigned to the preparation of these foods

1. The amount of food bulk to be cooked.
2. The most desirable method of preparation for that kind of food.

Frequency of use

Frequencies for using these cookers are as follows:

Table V

Frequency of Use List for Cookers, Coffee Makers, and Tea Pots

Key: a. used once only c. desirable but not necessary
b. washed and re-used to have additional utensil

Capacity and Kind of Utensil	a	b	c	Total
Insulated cooker	14			14
Steamer	4		3	7
Dutch oven	11		3	14
Roaster	31		1	32
Broiler Pan	102	1	4	107
Teakettle	311	34		345
Coffee makers	251			251
Tea pot and ball	62			62
Electric toaster	40			40
Electric waffle iron	7			7

Determination of possible satisfactory substitutes
for the cookers listed

The insulated cooker, which may be purchased with an electric stove, was listed as needed comparatively few times and for this reason was not included on the basic list.

From the experience of the writer, it would seem advisable to have an electric range with at least four elements rather than one with three elements and an insulated cooker. At least two elements should be large and at least one small to care for the cooking processes which require stove burners.

Although the steamer was listed as used but four times, it was included on the basic list because none of the Home Management Houses from which the menus were chosen had a steamer. For this reason steamed foods did not appear on the menus to any appreciable extent. The baby's bottle sterilizer or the insulated cooker was used when steamed puddings were prepared. However, steaming has been recommended as one of the best ways to preserve the nutritive value of fresh and frozen vegetables. The writer, therefore, recommended that the 8-quart kettle which has been placed on the basic list be equipped with a steamer inset.

In this study it was found that in most cases a Dutch Oven and a roaster were satisfactory for the same purposes. Since the roaster is larger and would care for all needs, the roaster was included on the basic list and a Dutch Oven was placed on the supplementary list.

The broiler pan was found to be a necessary utensil which was used many times. There was no adequate substitute available.

The teakettle was also used many times and there was no adequate substitute available for it. Therefore, it was placed on the basic list. The capacity of the teakettle as recommended by Wilson and McCulough is six quarts (6). This has been found through experience to be satisfactory for the Home Management House.

Coffee makers were needed slightly more than 50 per cent of the meals. Second servings are offered at both regular and guest meals. Therefore, utensil capacity should be provided for at least 24 cups of coffee, or 16 measuring cups of water.

Providing for two coffee makers, one of which contains 10 and one of which contains 6 measuring cups of water, would probably be the most practical way of providing for this need. It is suggested that the six-

cup coffee maker could be of a light weight material as this would be used less often. Both sizes of coffee makers are included in the basic list.

Tea pot and ball -- Since there are usually some students living in the Home Management House who do not drink tea, it was felt that a 2-quart tea pot would provide 12 cups of tea and be sufficiently large. Tea is not served often when guests are present. Also, the time required for making fresh tea is small. Therefore it was recommended that if more were needed, a second pot could be made.

An electric toaster was placed on the basic list as it was needed frequently. Although toast can be made under the broiler, it is many times more desirable to use an electric toaster so that the toast may be made as needed.

An electric waffle iron was included on the basic list because there was no substitute.

Recommendations are as follows:

<u>Basic List</u>	<u>Supplementary List</u>
Steamer inset for 8-quart kettle	*Insulated cooker (size according to stove purchased)
Roaster (about 16")	Dutch oven (12")
Broiler pan (according to stove)	
Teakettle 6-quart capacity	<u>Basic List (cont.)</u>
Coffee makers 10 cup capacity 6 cup capacity	Electric toaster
Tea pot and tea ball 2-quart capacity pot	Electric waffle iron

*Utensils of secondary importance.

Food Preparation Bowls

Definition of terms:

The bowls used were considered as individual units rather than in nested sets as they are often sold.

As used in this study, the term "bowl with beater" was used to describe a small bowl which has a lid with a beater attached.

The salad bowl included in this study is a wooden bowl used for mixing salads.

Points considered when sizes and numbers of
bowls were assigned to the foods prepared

1. The amount of food to be mixed or beaten was considered.

2. Margin for ease of beating and for lessening the danger of spilling was included and Wilson and McCullough's standards were used as a guide. "Bowls should not be more than one-half full for beating and mixing." (6, p. 85).

3. Margins allowed for expansion when beating eggs were also considered and Wilson and McCullough's findings were used. These are as follows:

1 beaten egg white -- 1 cup
1 beaten egg yolk -- $\frac{1}{2}$ cup
1 beaten egg, whole - 1 cup

4. Consideration was given to bowls needed for storing foods during the preparation of a "dish" or a meal when no mixing was necessary. When no mixing or beating was necessary, bowls could be filled nearly full.

Frequency of use:

The frequency of use table for mixing bowls is given on the following page.

Table VI
Frequency of Use List for Mixing Bowls
Used in the Preparation of 450 Meals
in the Home Management Houses

Key: a. used once only c. desirable but necessary
 b. used two utensils to have an additional
 c. washed and re-used utensil

Kind and Capacity	Frequency of Use				Total
	a	b	c	d	
Mixing Bowls:					
1 pint	200	6	49	3	264
1½ pint	144	3	5		155
1 quart	193	9	45		256
1½ quart	171	7	16		201
2 quart	213	17	67		314
3 quart	228	1	96		326
4 quart	98		14		112
7 quart	21				21
Bowl with beater:	4			72	76
Salad Bowl	91			1	92

Determination of possible substitutes for
the bowls listed

There were but few adequate available substitutes for the bowls listed. Frequency of use for all bowls was high. However, a 2-quart bowl was substituted for a 1½-quart bowl for the following reasons:

1. Analysis of data shows it was an adequate substitute in all cases.
2. There were several times that 2-quart bowls were listed as necessary.

Therefore, the 1½-quart bowl was placed in the supple-

mentary list of desirable utensils.

The bowl with beater was placed on the supplementary list because there was an adequate substitute available whenever needed. The bowl with beater would, in many instances, care for the second 1-pint, $1\frac{1}{2}$ -pint, and 1-quart bowls listed as needed. At other times, a bowl of comparable capacity was available. The raw data show that an additional 3-quart bowl, one rather deep and narrow, would aid in the ease of manipulation when mixing various types of things. Another additional bowl, one rather flat and wide, would also be of use. The wide flat bowl could be used when mixing with a spoon, and the narrow deep bowl for used when mixing with a beater.

Recommendations for bowls are as follows:

Basic List

1 pint bowl
 $1\frac{1}{2}$ pint bowl
 1 quart bowl
 2 2-quart bowls
 3 quart bowl
 4 quart bowl
 7 quart bowl
 Salad bowl

Supplementary List

* $1\frac{1}{2}$ quart bowl
 * 3 quart bowl
 ** Bowl with beater

*Utensils of secondary importance.

**Utensils of greatest importance.

Measuring Cups, Spoons, and Other Measuring Devices

Definition of terms

Measuring spoon set: A set of standard measuring spoons which includes teaspoon, half teaspoon, and fourth teaspoon measures, and tablespoon.

Measuring cup set: A measuring cup set includes separate measures for a cup, half cup, one-third cup, and one-fourth cup.

Measuring cup: A standard measuring cup includes markings which designate not only one cup, but also halves, thirds, and fourths of a cup. The cup may be of metal or of glass.

Quart measure: A quart measure hold one standard quart and is marked to indicate fractions of a quart.

One cup: For ease in handling the food, a regular cup was included in this group. It is to be used as a utility container, not as a measure.

Points considered when types, sizes, and numbers of measuring devices and of the cup were assigned for use in the preparation of foods

1. Amounts to be measured
2. Type of food to be measured
3. Amount of material to be stored while food preparation processes are in progress.

Frequency of use

Table VII summarizes frequency of use lists for the various measuring devices needed in preparing foods.

Table VII
Frequency of Use List for Measuring Cups, Spoons,
and Other Measuring Devices Needed in the
Preparation of Meals

Key: a. used once only d. washed and re-used
 b. used two utensils e. desirable but not necessary
 c. used three utensils to have additional utensil

Kind	Frequency of Use					Total
	a	b	c	d	e	
Measuring spoon set	237	96	2	172		607
Measuring cup set	196	12		41		261
Measuring cup	241	75	3	124		524
Quart measure	7				164	171
One cup (utility)	54	1		9		65

Determination of possible satisfactory substitutes
for the utensils listed

There was no adequate available substitute for the measuring devices listed, except in the case of the quart measure. However, the quart measure is a time-saver in measuring large quantities of liquid. Since the quart measure was needed many times as a desirable utensil, it was placed on the basic list.

One measuring cup set and one measuring cup were placed on the basic list. It was found by scanning the raw data that when a second measuring cup was needed, it was possible to substitute either the other type of cup or the quart measure. However, a second set of measuring cups and a second measuring cup were placed on the supplementary list because of the added convenience.

In a few instances when a third measuring device was listed as being desirable, it was found that a substitution could be made. The writer suggests that if the kitchen is planned in units, it would be desirable to have a set of measuring spoons and a measuring cup or set of cups in each of the several centers, such as mixing, stove, salad making, etc.

As it seemed desirable for convenience to have a utility cup in the sugar container, it was assumed that

a cup be kept there for ease in adding sugar to foods or in filling measuring utensils.¹

A utility cup was included on the list to provide storage for small amounts of food during food preparation processes.

The writer therefore recommends the following

<u>Basic List</u>	<u>Supplementary List</u>
2 measuring spoon sets	** measuring cup set
1 measuring cup set	** measuring cup
1 measuring cup	
1 quart measure	
1 utility cup	
1 utility cup (for sugar)	

**Utensils of greatest importance.

Cutting Knives

Definition of terms

Paring knife: A paring knife has a blade about $2\frac{1}{2}$ inches long.

Short blade knife: In this study this term means a knife with a four- to five-inch blade. This knife is suited to halving fruits, paring and chopping small amounts of food, etc.

1. Frequencies not listed.

Chopping knife: A chopping knife is a knife with a straight edge suited to chopping (French Cook's knife). (10, p. 192)

Slicing knife: A slicing knife is a knife which has a long flexible blade tapering slightly at the point. (10, p. 192)

Utility knife: A medium size knife which has a straight or curved cutting edge. (10, p. 191)

Carving knife: A carving knife has a fairly long, sturdy blade, not too pliable. (10, p. 192)

Grapefruit knife: A knife which is curved and double edged, used to cut the sections of the fruit from the rind and the enclosing membranes. (10, p. 192)

Special knives for preparing foods such as potatoes, apples, etc., were also listed. They will be discussed in the descriptive material.

Points considered when types, sizes, and numbers of cutting knives were assigned to the foods prepared

1. The kind and size and consistency of materials to be cut.
 2. The manner in which the material is to be cut.
 3. The special use of the knife in question.
- The possibility of damaging the knife by using it for

the wrong kind of process.

4. The educational values of learning to use the correct knife for each process.

Frequency of use

The frequency with which the various cutting knives were used is listed in the following table:

Table VIII
Frequency with which Cutting Knives Were Used
in the Preparation of Meals

Key: a. used once only c. washed and re-used
 b. used two utensils d. desirable but not necessary
 to have additional utensil

Kind and size	Frequency of use				Total
	a	b	c	d	
Paring knife ($2\frac{1}{2}$ ")	204	50	70		374
Short blade knife	236	36	71		359
Chopping knife	90		7		97
Slicing knife	67		2		69
Utility knife	95		7		102
Grapefruit knife	2			21	23
Knife for carrot curls				7	7
Potato parer	2			81	83
Apple parer and corer	3		1	75	79
Kleaver	1			7	8

Determination of Possible Satisfactory Substitutes
for the Cutting Knives Listed

Two paring knives were placed on the basic list for the following reasons:

1. Frequency of use was great.
2. There was no adequate substitute.
3. The knives are so inexpensive it seemed desirable to provide an ample number to care for the needs.

The writer recommends that one be of the spear-point kind and one be a sharp-point paring knife.¹

A short blade knife which has a short, fairly sturdy blade was placed on the basic list because it was used frequently and also because its use, in many cases, eliminated the need for two different knives. The second knife of this type was placed on the supplementary list because a combination of the paring knife and the chopping knife could be substituted when the second one was needed.

A chopping knife in this study was assumed to be a French Cook's knife and was placed on the basic list because the frequency of use was high. Also, it was definitely a better utensil than any other available knife for the purpose assigned.

1. For illustrations see 10, p. 191.

An 8-inch blade is recommended because of ease of handling and because it is adequate for chopping various foods.

Although the frequency of the use for the slicing knife was not as high as for some other kinds of knives, the slicing knife was placed on the basic list because there was no satisfactory substitute available.

The utility knife with its straight or curved cutting edge was placed on the basic list because there was no satisfactory substitute available. It is recommended that the blade be about 7 inches long.

Even though the carving knife is used infrequently in the kitchen, it was placed on the basic list of kitchen utensils. It may also be used in the dining room.

Because the grapefruit knife was listed for use more than once a week and it is especially made for a purpose, it was included on the basic list of utensils. In a limited amount of time it is difficult to prepare grapefruit halves without the use of a grapefruit knife.

A knife which is suited to paring potatoes and to making carrot curls is also recommended for the basic list. Carrot curls were not served often according to

the menus analyzed. Therefore, it did not seem either necessary or desirable to provide a special knife for the purpose.

An apple parer and corer was placed on the basic list. The frequency of use was high and there is no adequate substitute available.

The writer recommends that good-quality knives made by reliable firms be purchased so that they will give satisfactory service for a long period of time. Care should be exercised in storing and using knives.

Recommendations

On the basis of the above analysis, the following recommendations are made.

Basic List

2 paring knives
(about 2½")

Short blade knife

Chopping knife
(about 8" blade)

Slicing knife
(about 8" blade)

Utility knife
(about 7" blade)

Carving knife

Grapefruit knife

Apple parer and corer
Potato parer

Supplementary List

4"- or 5"-blade knife

Knife for carrot curls

Case Knives, Forks, Spoons, and Spatulas

Definition of terms:

With the possible exception of the terms defined below, standard terms apply to the utensils used in the part of the study. Recommendations for specific sizes are mentioned in the descriptive material.

Rubber spatula: In this study, the term "rubber spatula" means a flexible rubber scraper that is especially adapted to scraping bowls and other mixing dishes.

Salad spoon and fork: This term is interpreted to mean a pair of utensils made especially for tossing salads in a salad bowl.

Points considered when types, sizes, and numbers of utensils were assigned to the foods prepared

1. The method used in preparing the food.
2. Combinations of food prepared.
3. The most convenient size of a particular utensil for the process involved.
4. Safety, as in lengths of knives and forks.
5. The size of the utensil with which it is used.
6. The number of people working simultaneously in a preparation process.

Frequency of use

In the table below, the frequency of use for these utensils are tabulated.

Table IX

Frequency with which Case Knives, Forks, Spoons, and Spatulas
Were Used in the Preparation of 450 Meals
Served in the Home Management Houses

Key: a. used once only d. used four times
 b. used twice e. washed and re-used
 c. used three times f. desirable but not necessary
 to use additional utensil

Type and size	Frequency of use						Total
	a	b	c	d	e	f	
Case knife	194	46			7		293
Case fork	180	57			18		312
10" fork	192	22			9		245
14" fork	91						91
18" fork	40				1		41
Case teaspoon	134	21			6		182
Case tablespoon	165	170	66	5	165		888
12" perforated spoon	85				7		92
14" non-perforated spoon	40				1		40
10" wooden spoon	162	7			16		192
14" wooden spoon	163	4			18		189
4" spatula	228	4			68		304
6" spatula	43					4	47
10" spatula	69				4		73
Broad spatula	71				7	3	81
Turner	37						37
Rubber spatula	2					104	106
Salad spoon and fork	19					59	78

Determination of possible satisfactory substitutes
for the utensils listed

After a careful survey of the raw data sheet to determine when adequate substitutes were available for the utensils listed in the above table, it was decided that the following substitutions could be made.

A case fork could be used when the second 10"-fork was listed. Therefore, the second 10"-fork was placed on the supplementary list.

Either the 10" or 18" fork was always available and adequate when the 14" fork was listed for use. Therefore, the 14" fork was placed on the supplementary list.

Also the second 10" wooden spoon listed was placed on the supplementary list because the second 14" wooden spoon was available for use when two 10" wooden spoons were listed as being needed.

The broad spatula was placed on the supplementary list because the turner was always available when it was listed and the turner was an adequate substitute. The turner was placed on the basic list rather than the broad spatula because it is less expensive.

The salad spoon and fork set was placed on the supplementary list because two forks or a fork and table-spoon could be substituted for it.

Two four-inch spatulas were placed on the basic list because it was recommended that a spatula be placed in each center where food is likely to be measured.

Recommendations were, therefore, made as follows:

Basic List

Supplementary List

2 case knives

2 case forks

1 10" fork

* 1 10" fork

1 18" fork

** 1 14" fork

2 case teaspoons

4 case tablespoons

1 perforated spoon
(about 12")

1 non-perforated spoon
(about 14")

1 10" wooden spoon

* 1 10" wooden spoon

2 14" wooden spoons

2 4" spatulas

1 6" spatula

1 10" spatula

1 14" turner

*1 broad spatula
(about 2½" x 5")

1 rubber spatula

** Salad spoon and fork

**Utensils of greatest importance

*Utensils of secondary importance

Pastry Utensils

Definition of terms:

Most of the utensils in this study that are grouped under the heading "pastry utensils" are standard equipment. Therefore, no definition is necessary. Specifications and recommendations will be given in the descriptive material which follows.

A pastry brush is considered to mean a small brush used for greasing pans, and other surfaces.

Points considered when types, sizes, and numbers of pastry utensils were assigned to the foods prepared

1. Type and amount of food prepared.
2. Process used in food preparation.
3. Effect of utensil on the ease of preparation and on the time involved for the process.

Frequency of use:

Table X shows the frequency with which the pastry utensils were needed in the preparation of home management house meals.

Table X
Frequency of Use List for Pastry Utensils

Key: a. used once only d. desirable but not necessary
 b. two utensils used to have additional utensil
 c. washed and re-used

Kind	Frequency of use				Total
	a	b	c	d	
Flour sifter (1-quart)	189		29		218
Pastry blender	35		3	27	65
Pastry board	100		12		112
Rolling pin (12-inch)	102		13		115
Cutter	51				51
Cake racks	8	27		1	63
Cooky press	1			2	3
Pastry brush	1			99	100

Determination of possible satisfactory substitutes
for the pastry utensils listed

There was no satisfactory substitute for a flour sifter and it was, therefore, placed on the basic list. A one-quart sifter was found adequate for the needs of the home management house.

Although two case knives or two spatulas could have been used in blending fat and flour for pastry, etc., it was found advisable to place the pastry blender on the basic list because it is inexpensive and needed frequently. It is also a time and labor saver and a utensil the students should have an opportunity to use.

A pastry board was placed on the basic list as it was necessary and there was no adequate substitute available. Minimum size that would be recommended is a 22-inch board (6, p. 93).

A 12-inch rolling pin was recommended as the best size with which to roll the crust for a 9-inch pie with the minimum number of strokes (6, p. 39).

Two cutters were considered necessary because it is often desirable to have small biscuits and cookies and also to have medium-sized biscuits and cookies. Cutters are inexpensive utensils and therefore two were placed on the basic list. The suggested sizes are $1\frac{1}{2}$ -inch and $2\frac{1}{4}$ -inch.

Two cake racks were included on the basic list as there were no adequate substitutes available. When used, two were found necessary. The suggested size is 11" x 11". This is sufficiently large to cool products baked in the pans recommended in this study.

A cooky press was placed on the supplementary list of equipment because it was seldom used. Another type of cooky could be substituted for the ones which require a cooky press, or for special occasions a cooky press could be borrowed from the College stockroom.

A pastry brush was placed on the supplementary list because waxed paper could be used as an adequate

substitute. However, unless the minimum cost for utensils needs to be considered, it was suggested that a pastry brush be included and purchased.

As a result of the foregoing analysis, the following recommendations were made:

Basic List

1 quart flour sifter

Pastry blender

Pastry board
(at least 22")

12" rolling pin

Cutters
(about $1\frac{1}{2}$ " and $2\frac{1}{4}$ ")

Two cake racks
(11" x 11")

Supplementary List

* Cooky press

** Pastry brush

**Utensils of greatest importance
*Utensils of secondary importance

Beaters

Definition of terms:

Rotary beater, wire whisk, and electric mixer are all standard utensils found in any utensil store. The term "small beater" as used in this study means a beater of a size suitable for beating one egg only.

Points considered when types and numbers of beaters were assigned to the foods prepared

1. The amount of food to be beaten or mixed.
2. How "heavy" or stiff the mixture was that needed beating.
3. The type of mixture to be beaten or mixed.

Frequency of use

An analysis of the data with reference to frequency of use for beaters follows:

Table XI
Frequency of Use for the Various Types of Beaters
Needed in the Preparation of 450 Meals
Served in the Home Management House

Key: a. used once only c. desirable but not necessary
 b. washed and re-used to have additional utensil

Kind of beater	Frequency of use			Total
	a	b	c	
Rotary beater	224	64	38	326
Small beater			20	20
Wire whisk			8	8
Electric mixer			36	36

Determination of possible satisfactory substitutes
for the beaters listed in Table XI

A rotary beater was placed on the basic list as there was no adequate substitute. The writer recommends that a very good beater be purchased because it is used often and by many different people.

A small beater was found useful in many cases. Since it is an inexpensive utensil and a means of preventing waste, the small beater was placed on the basic list. By conferences with students residing in the home management house at the time this study was made, it was found that this beater was considered desirable.

Although a wire whisk was not listed as being used very frequently, it was placed on the basic list because of its importance for certain processes in cooking. To a great extent, the beater or other utensil used for combining mixtures depends on the individual preference of the student. Therefore, it seemed advisable to keep the whisk on the basic list.

The electric mixer was placed on the supplementary list because an adequate substitute was always available. An electric mixer is an expensive utensil and should be reinforced with great frequency of use to merit placing it on the basic list. One student, however, stated that she would not make seven-minute icing again

unless she had an electric mixer available.

On the basis of the above analysis the following
Recommendations are made

Basic List

Rotary beater

Small beater

Wire whisk

Supplementary List

* Electric mixer

*Utensils of secondary importance

Molds

Definition of terms

Molds are standard utensils. Suggestions as to the size and shape desired will be made in the descriptive material.

Points considered when types, sizes, and numbers
of molds were assigned to the foods prepared

1. The kind and amount of food to be prepared.
2. The way in which it was desirable to prepare and serve the food.

Frequency of use

A table showing the frequency with which the various kinds of molds were used is found on the following page.

Table XIII

Frequency of Use for the Various Kinds of Molds
Used in the Preparation of Food

Key: a. used once only c. desirable but not necessary
 b. three utensils used to have additional utensil

Kind and size	Frequency of use			Total
	a	b	c	
1-quart mold			1	1
1 $\frac{1}{2}$ -quart mold	1		1	2
Gelatin molds (12)	28		1	29
Cans for steaming	2	1		5
Ring molds	3			3

Determination of possible satisfactory substitutes
for the molds listed

The one-quart and $1\frac{1}{2}$ -quart molds were used so infrequently that they were placed on the supplementary list. The bread pans or casseroles could have been used in place of them, if it was desirable to have the food molded in something other than regular gelatin molds.

One set of 12 gelatin molds was placed on the basic list of utensils. However, it seemed desirable to have an additional set of 12 molds for variation in shape and size. Therefore, an additional set was placed on the supplementary list.

Cans for steaming are very seldom used. It is recommended that cans such as baking powder cans or coffee cans be saved and used as containers for steaming food.

Because it was used so infrequently, the ring mold was placed on the supplementary list. However, it is a desirable piece of equipment. It is possible that it was used more often than the frequencies show. The use of this utensil was tabulated only when the menu stated specifically that a ring mold had been made.

Recommendations are, therefore, as follows:

Basic List

12 gelatin molds

3 cans for steaming

Supplementary List

** 12 gelatin molds

1 quart mold

* $1\frac{1}{2}$ quart mold

**Ring mold
(about 12" in
diameter)

**Utensils of greatest importance
*Utensils of secondary importance

Miscellaneous Utensils

Definition of terms:

Most of the terms applied to the utensils included in this group are standard terms which, therefore, need no defining. Specifications for some of the utensils are included in the descriptive material.

Points considered when the foods prepared were assigned to the various miscellaneous utensils

1. The kind and amount of food prepared
2. The method of preparation used.

Frequency of use:

Miscellaneous utensils are listed in Table XIII with the frequencies of use for each.

Table XIII

Frequency of Use for Miscellaneous Utensils

Key: a. used once only d. desirable but not necessary
 b. used two utensils to have additional utensil
 c. washed and re-used

Type and Kind	a	b	c	d	Total
Hand-type can opener	1				1
Wall-type can opener	200		34		234
Juice extractor					
Hand-type	15		1		16
Wall-type	44				44
Bottle opener	7				7
Strainer (3" and 6")	37		1		38
Colander	4			9	13
Sieve (with roller)	40				40
Dipping basket	26			2	28
Grater	54		4	2	60
Masher	40				40
Ricer	5				5
Chopping board	254	7	95		364
Grinder	11			25	36
Meat thermometer				17	17
Deep fat frying thermometer				4	4
Mallet	2			8	10
Ladle ($\frac{1}{2}$ cup)	53	1	1		55
Nut cracker	1			27	28
Nut chopper			1	28	29
Ice cream freezer	17				17
Skimmer	4			2	6
Shredder	49		1	3	53
Ice cream dipper	12			5	17
12 skewers	8				8
Egg poacher				2	2
Strawberry huller				4	4

Determination of possible satisfactory substitutes
for the miscellaneous utensils listed

A can opener was used often. The time and safety elements are important. Therefore, it would appear that the wall-type opener should be purchased. An inexpensive opener of the hand-type should be available to use for picnics or for making small openings in cans containing juice or milk. Therefore, one of each type of can opener was placed on the basic list.

Because a juice extractor was used often and a large amount is needed to serve 12 people, a wall-type extractor was placed on the basic list. It is suggested, however, that an inexpensive hand-type extractor be purchased, also, for extracting small amounts of juice, such as lemon juice for a pie or for sauces.

The ricer was placed on the supplementary list of utensils because it was used infrequently. Grating and shredding can be cared for by one utensil, a grater and shredder which has surfaces which care for both processes. This utensil is placed on the basic list.

The writer suggests that two chopping boards be provided if there is available space. The pastry board is not adequate for this purpose because chopping would mar its surface. One board would be used for cutting and pounding meat and one for chopping fruits,

vegetables, and other foods.

The meat thermometer was placed on the basic list because it was considered a money saver from the standpoint of cooking roasts. It also has an educational value. Each girl is required to prepare a roast, and the majority of the roasts are cooked by dry heat.

A thermometer for use in deep fat frying was placed on the supplementary list because it was used infrequently and was not essential to the cooking process.

The writer recommends that one of the three Home Management House at Oregon State College be equipped with a one-gallon ice cream freezer. Frequency of use was not great enough to warrant one being purchased by each house. However, a more desirable product may be obtained in some cases by the use of a freezer rather than a mechanical refrigerator freezing tray. Also, larger amounts may be made at one time in the hand freezer.

The skimmer was placed on the supplementary list because the perforated spoon was available for use when the skimmer was listed for use.

The ice cream dipper was placed on the supplementary list because it was used infrequently and either a tablespoon or the long-handled metal spoon were available as a substitute.

An egg poacher was placed on the supplementary list because eggs were not poached often. However, that may have been because a poacher was not available for use. It is recommended that one be purchased if possible.

A strawberry huller was placed on the supplementary list because there was an adequate substitute available at all times. Also, it was used infrequently.

There are several miscellaneous utensils which have a definite use and for which there is no adequate substitute. Most of them are inexpensive and were considered necessary for their specific purposes.

The following utensils were placed on the basic list of utensils: bottle opener; 3" and 6" strainer; 12" colander; 6" sieve with roller; dipping basket (to fit 3-quart sauce pan); masher; grinder; mallet; ladle; nut cracker; nut chopper; and 12 skewers.

Recommendations based on the foregoing analysis are:

Basic list

Supplementary list

Grinder

Meat thermometer

Mallet

Ladle

Nut cracker

Nut chopper

Strawberry huller

Ice cream freezer (1 gal.)
(one for the 3 houses)

Basic List (Cont.)Supplementary List (Cont.)

12 skewers

Skimmer

Hand-type can opener

*Ice cream dipper

Wall-type can opener

**Egg poacher

Hand-type juice extractor

Wall-type juice extractor

Bottle opener

3" strainer

6" strainer

12" colander

6" sieve with roller

Dipping basket

(to fit 3-quart sauce pan)

Grater and shredder

(combination)

Masher

*Ricer

Chopping Board

**Chopping board

**Utensils of primary importance

*Utensils of secondary importance

There are utensils that are needed in the Home Management House Kitchen for meal preparation for which it would be difficult to determine the number of times used. These include the following that were placed on the basic list because they were used often and there was no adequate substitute; a steel for sharpening knives; a set of salt and pepper shakers; kitchen scissors; a device for removing cream from the top of a milk bottle, the kind needed depends upon the type of bottles used by the dairy; a pan for preparing vegetables when sitting down; a sink strainer; and a device for cutting butter into cubes. Butter molds were placed on the supplementary list.

As a result of her experience in the Home Management House, the writer recommends that butter paddles and also another type of mold be provided if possible. Molded butter is usually prepared for guest meals, so that it would be prepared about once a week.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

The problem undertaken in this study was that of determining a basic list of necessary kitchen utensils and, also, a supplementary list of desirable kitchen utensils for a home management house at Oregon State College.

The method of procedure used in making the study was as follows:

1. A sample of menus from two home management houses was selected for analysis. These were equivalent to a full school year's menus and included seasonal variations.

2. Cards were then prepared for each food or type of food served. On these cards was listed the processes necessary to prepare each food. Utensils which were necessary and, also, those which were desirable to carry out the processes listed were included. Amounts of food necessary to serve 12 people were used as a basis for calculating sizes of utensils.

3. The group of utensils needed to prepare each meal was tabulated as a unit. Care was taken that

the identity of each meal was maintained so that later adjustments in determining substitute utensils could be made.

When it was discovered that frequencies fell in definite patterns, the menus from 150 days of the original 224 days were selected for final analysis.

Frequency summaries were made to show the total number of times (a) each utensil was needed once only, (b) two or more utensils of the same kind or size were needed, (c) a utensil was used, washed, and then re-used, and (d) the number of times it was desirable but not essential to use a utensil.

The data for each group of utensils were analyzed with reference to the following:

1. Points considered when types, sizes, and numbers of utensils were assigned to the food processes.
2. Frequency of use for utensils.
3. Determination of possible adequate substitutes for all utensils needed.
4. The determination of basic and supplementary lists for each group of utensils.

Utensils placed on the supplementary list were further analyzed from the standpoint of their relative importance. This list was then divided into the

supplementary utensils of greatest importance, those of secondary importance, and those of least importance.

As a result of this analysis, the following utensils have been included on the recommended basic and supplementary lists of kitchen utensils needed for a home management house at Oregon State College:

Basic and Supplementary lists of Utensils

Basic list:

Sauce pans

1 quart
3 quart -- flat
3 quart -- deep
4 quart

Pots

4 quart

Kettles

8 quart

Pans

$\frac{1}{2}$ -pint
3 quart

Double Boilers

$2\frac{1}{2}$ quart
4 quart

Supplementary list:

Sauce pans

* 2 quart

Kettles

* 6 quart
Asparagus cooker
3 quart deep-fat
frying

Pans

1 pint
* $1\frac{1}{2}$ pint

Double Boilers

1 quart
* $1\frac{1}{2}$ quart
** 2 quart

**Utensils of greatest importance

*Utensils of secondary importance

Basic listSkillets

10" skillet with lid
and
11" skillet with lid
or

Two 10" skillets
with lids

Baking Dishes

Two casseroles
2 quart
1½ quart

12 ramekins

Baking Pans

2 baking sheets
(about 12" x 16")

Shallow baking pan
(about 1½" x 12" x 16")

Muffin pans
3 pans with 8 small
or medium cups

Two 9" round cake pans
(about 1½" deep)

Two square cake pans
(1½" x 9" x 9")

Angel cake pan
(8½" diameter x
3½" deep)

Supplementary listSkillets

* 9" skillet

* 5" - 7" skillet

** 12" griddle

Baking Dishes

* 12 custard cups

2 quart bean pot

Baking Pans

1 baking sheet
(about 12" x 16")

*Shallow baking pan
(about 1½" x 12" x 16")

**Muffin pan or pans
(12 large cups)

*One 9" round cake pan
(about 1½" deep)

**Utensils of greatest importance
*Utensils of secondary importance

Basic listSupplementary listBaking Pans (cont.)Baking Pans (cont.)

Two loaf bread pans
(about 8 $\frac{1}{2}$ " x 5" x 4")

One large pan
(about 12" x 16" x 4")

Two 9" pie pans

*One large pan
(about 12" x 16" x 4")

*One 9" pie pan

"Other Cookers", Coffee Makers and Tea Pots"Other Cookers""Other Cookers"

Steamer inset for
8-quart kettle

*Insulated cooker
(size according to
stove purchased)

Roaster (about 16")

Dutch Oven (12")

Broiler pan
(according to stove)

Teakettle
6-quart capacity

Coffee makers
10 cup capacity
6 cup capacity

Tea pot and tea ball
2-quart capacity pot

Electric Toaster

Waffle Iron

Mixing BowlsMixing Bowls

1 pint bowl
1 $\frac{1}{2}$ pint bowl
1 quart bowl
2 2-quart bowls
3 quart bowl

*1 $\frac{1}{2}$ quart bowl
* 3 quart bowl
** Bowl with beater

**Utensils of greatest importance
*Utensils of secondary importance

Basic listMixing Bowls (cont.)

4 quart bowl
 7 quart bowl
 Salad bowl
 (Wooden chopping bowl)

Measuring Utensils

2 measuring spoon sets
 1 measuring cup set
 1 measuring cup
 1 quart measure
 1 utility cup
 1 utility cup (for sugar)

Cutting Knives

2 paring knives
 (about 2½")

Short blade knife

Chopping knife
 (about 8" blade)

Slicing knife
 (about 8" blade)

Utility knife
 (about 7" blade)

Carving knife
 Grapefruit knife
 Apple parer and corer
 Potato parer

Supplementary listMixing Bowls (cont.)Measuring Utensils

** measuring cup set
 ** measuring cup

Cutting Knives

4"- or 5"- blade knife

Knife for carrot curls

Case Knives, Forks, Spoons, and Spatulas

2 case knives
 2 case forks
 1 10" fork
 1 18" fork
 2 case teaspoons

* 1 10" fork
 ** 1 14" fork

**Utensils of greatest importance
 , *Utensils of secondary importance

Basic ListSupplementary ListCase Knives, Forks, Spoons, and Spatulas (cont.)

4 case tablespoons	
1 perforated spoon (about 12")	
1 non-perforated spoon (about 14")	
1 10" wooden spoon	* 1 10" wooden spoon
2 14" wooden spoons	
2 4" spatulas	
1 14" turner	* 1 broad spatula
1 rubber spatula	(about 2 $\frac{1}{2}$ " x 5")

Pastry UtensilsPastry Utensils

1 quart flour sifter	* Cooky press
Pastry blender	** Pastry brush
Pastry board (at least 22")	
12" rolling pin	
Cutters (about 1 $\frac{1}{2}$ " and 2 $\frac{1}{4}$ ")	
Two cake racks (11" x 11")	

BeatersBeaters

Rotary beater	* Electric mixer
Small beater	
Wire whisk	

MoldsMolds

12 gelatin molds	**12 gelatin molds
3 cans for steaming	1 quart mold
	*1 $\frac{1}{2}$ quart mold
	**Ring mold
	(about 12" in diameter)

**Utensils of greatest importance
*Utensils of secondary importance

Basic listSupplementary listMiscellaneous UtensilsMiscellaneous Utensils

Grinder	
Meat thermometer	
Mallet	
Ladle	
Nut cracker	
Nut chopper	Strawberry huller
Ice cream freezer (1 gal.)	Skimmer
(one for the 3 houses)	*Ice cream dipper
12 skewers	**Egg poacher
Hand-type can opener	
Wall-type can opener	
Hand-type juice extractor	
Wall-type juice extractor	
Bottle opener	
3" strainer	
6" strainer	
12" colander	
6" sieve with roller	
Dipping basket	
(to fit 3-qt. sauce pan)	
Grater and shredder	
(combination)	
Masher	*Ricer
Chopping Board	**Chopping Board

**Utensils of primary importance

*Utensils of secondary importance

Basic list

Steel (for sharpening
knives)

Salt and pepper shakers

Kitchen scissors

Cream separator (for
removing cream from
top of milk bottle)

Pan for preparing
vegetables

Sink strainer

Butter cutter (for
cutting butter into
cubes)

Supplementary list

Butter molds

RECOMMENDATIONS FOR FURTHER STUDIES

1. Recommendations for home management house dining room equipment.
2. Storage arrangements for the kitchen utensils suggested by this study.
3. Study of size and special features desirable for the equipment which this study has assumed -- such as stoves, refrigerators, etc.
4. Recommendations for utensils other than those used in food preparation for the home management house.

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A P P E N D I X

PART I

EXHIBIT A -- Frequencies for Serving Various
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PART II

EXHIBIT A -- Samples of Cards Showing Processes
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PART I

EXHIBIT A

FREQUENCY OF SERVING VARIOUS TYPES OF FOODS

PART I
EXHIBIT A

FREQUENCIES FOR SERVING VARIOUS TYPES OF FOOD

Beverages

Coffee	251
Milk	175
Tea	62
Hot Chocolate	41
Iced tea	6
Fruit punch	3
Iced coffee	1

Breadstuff (cont.)

Homemade bread	1
Nut bread	1
Orange toast	1
Sally Lunn	1
Scones	1
Swedish tea ring	1

Breadstuff

Bread	104
Toast	96
Sandwiches	(44)
Meat	14
Cheese	9
Peanut butter	6
Nut	3
Jam	2
Loaf	2
Open faced	2
Beef dinner	1
Egg	1
Raw vegetable	1
Golden West	1
Tomato Bacon	1
Yeast Rolls	34
Muffins	29
Biscuits	20
Crackers	17
French bread	11
French toast	10
Waffles	7
Butter horns	6
Cinnamon toast	6
Griddle cakes	6
Corn bread	5
Brown bread	3
Coffee cake	3
Pop Overs	3
Cinnamon Rolls	2
Toast timables	2

Cakes

Chocolate	10
Gingerbread	7
Cup cakes	6
Cake	6
Upside-down cake	6
Angel food cake	5
White cake	5
Spice cake	2
Cocoanut top cake	1
Mahogany cake	1
Potato cake	1
Eclairs	1
Orange cake dessert	1
Strawberry shortcake	1

Casserole Dishes

Macaroni and cheese	8
Macaroni and meat	2
Macaroni and tuna	1
Rice	
Spanish rice	3
Rice casserole	2
Italian rice	1
Noodles	
with tuna	4
and chicken	1
Fondue	2
Celery-nut-potato	1
Corn and meat	1
Dinner-in-a-dish	1
Seafood	1

Casserole Dishes (cont.)

Shrimp-egg, mushroom	1
Souffle	1
Spinach, potato	1
Tamale pie	1
Veal breast	1

Cereal

Prepared cereal	39
Cooked cereal	37
Boiled rice	8
Scrapple	1

Cocktails

Fruit juice and tomato juice	13
Crab	1
Fruit	1
Lime sherbet with Lime Rickey	1
Orange and grapefruit	1
Spiced orangeade	1
Tart avocado	1
Canapes	9

Cookies

Cookies	34
Wafers	10
Ice box	4
Toll House	4
Oatmeal	3
Peanut butter	3
Brownies	2
Gingersnaps	2
Macaroons	2
Swedish	2
Applesauce	2
Butter cookies	1
Cocoanut	1
Chocolate	1
Chocolate pin wheel	1
Graham crackers with icing	1

Cottage Cheese

5

Desserts

Frozen	
Ice cream	21
Sherbet	7
Ices	4
Frozen fruit salad	1
Marlow	1

Custards

Baked	7
Soft	4

Gelatin desserts

Whipped Jello	6
Fruit Jello	6
Bavarian cream	3
Sponge	3
Jello parfait	1

Puddings

Tapioca cream	8
Chocolate	4
Bread	3
Butterscotch	2
Apple	1
Carrot	1
Chocolate rice	1
Cocoanut	1
Cornstarch	1
Gingersnap	1
Graham cracker	1
Grapenut	1
Lemon meringue	1

Miscellaneous

Whip	7
Apple Betty and Crisp	4
Peanut Butter Trifle	2
Chocolate Half- and-half	1
Date loaf	1
Lemon crunch	1

Dressing -- breadcrumb

5

Eggs

Scrambled	14
Deviled	6
Fried	6
Cooked in shell	4
Goldenrod	4
Creamed on toast	3

Eggs (cont.)

In Bacon ring	3
Omelet	3
Egg nog	2
Poached	2
Shirred	1

Fruit

Canned juice	46
Canned fruit	38
Apple sauce	26
Grapefruit halves	19
Sliced oranges	16
Sliced bananas	15
Orange juice	13
Stewed dried fruit	13
Baked apple	8
Fruit cup	8
Canned berries	4
Cinnamon apples	4
Raspberries	4
Rhubarb sauce	4
Strawberries	4
Watermelon	4
Apple rings	2
Baked banana	2
Black berries	2
Grilled pineapple	2
Apple with honey	1
Baked pears	1
Broiled grapefruit	1
Cantaloupe	1
Orange halves	1
Orange sections	1

Gravies

Meat gravy	30
Mushroom gravy	2

Meat

Steaks	
Pork chops	9
Stuffed	5
Salmon	7
Breaded veal	6

Meat (cont.)

Steaks	
Swiss	6
Hamburger	3
Cube	2
Beef	1
Roasts	
Beef	9
Pork	6
Veal	5
Baked heart	2
Lamb	2
Baked ham	1
Pot roast	1
Bacon	21
Left-over dishes	
Cold meat	6
Meat pie	6
Croquettes	3
Hash	2
Stew	2
Chop suey	1
Loaf	
Meat loaf	9
Ham	5
Salmon	5
Veal and chicken	1
Creamed meats	
Dried beef	5
Salmon	3
Tuna	3
Ham	2
Salmon a la king	1
Shrimp	1
Tuna fish rarebit	1
Patties	
Meat	5
Liver	1
Salmon and bacon	1
Tuna	1
Link sausages	6
Liver	5
Meat balls	5
Mock chicken legs	4
Hamburgers and buns	3
Chicken fricasse	2
Veal birds	2
Weiners and saurkraut	2

Meats (cont.)

Apple stuffed	
with sausage	1
Corned beef and cabbage	1
Filet of sole	1
New England boiled	
dinner	1
Sweet sour spare ribs	1
Weiner, bacon,	
cheese roll	1

Pastes

Baked spaghetti	2
Spaghetti and sausage	1

Pie

Apple	10
Lemon	6
Cherry	5
Berry	2
Butterscotch	2
Pumpkin	2
Banana cream	1
Bavarian cream	1
Cherry chiffon	1
Cherry tarts	1
Chess	1
Chocolate cream	1
Cupid	1
Jello cream	1
Lemon chiffon	1
Mince	1
Peach	1
Rhubarb	1

Relishes

Jam	70
Celery	38
Jelly	37
Olives	21
Syrup	16
Radishes	13
Pickles	12
Carrots	10
Honey	9

Relishes (cont.)

Relish	6
Marmalade	5
Apple and pear butter	4
Pickled beets	3
Mints	2
Stuffed celery	2
Turnip	2
Lechee nuts	1
Peanut butter	1

Salad Dressing

French	14
Mayonnaise	7
Cooked	1
Russian	1

Salads

Fruit	
Fruit salad	30
Waldorf	11
Orange, grapefruit	
and avocado	9
Fruit and cottage	
cheese	5
Pineapple	5
Molded fruit	4
Banana	3
Pear and cheese	3
Molded fruit and	
ginger ale	2
Orange	1
Pineapple, banana,	
and nuts	1
Prune	1
Stuffed peach	1

Meat

Tuna fish	6
Meat	2

Miscellaneous

Jello	10
Club House	2
Macaroni	2
Tomato, peach,	
prune, cheese	1

Salads (cont.)

Vegetable	
Lettuce	26
Fresh vegetable	21
Cabbage	19
Lettuce and tomato	13
Vegetable	11
Tomato aspic and artichoke	7
Tomato, sliced	7
Potato	6
Carrot	
and raisin	5
and pineapple	3
shredded	3
Cucumber	4
Molded Perfection	4
Molded vegetable	4
Raw cauliflower	
and cabbage	3
Sliced cucumbers	2
String bean	2
Tomato-cheese	2
Asparagus	1
Avocado	1
Cabbage, pickle, celery, egg	1
Lettuce, bean	1
Molded mint	1
Stuffed green peppers	1
Stuffed tomatoes	1

Sauces for Desserts

Chocolate	3
Vanilla	2
Butterscotch	1
Caramel	1
Lemon	1
Orange	1

Sauces for Main Dishes

Tomato	11
Cheese	8
White	7
Mushroom	3
Tartar	3

Sauces for Main Dishes (cont.)

Catsup	2
Fruit	2
Mustard	1

Soups and Chowders

Vegetable soup	8
Potato soup	5
Cream of tomato	4
Chicken-vegetable	3
Clam chowder	3
Split pea soup	3
Abalone soup	1
Cream of Asparagus	1
Cream of corn	1
Hot chicken boullion	1
Lima bean chowder	1
Oyster stew	1
Rice soup	1

Vegetables

White Potatoes	
Mashed	38
Baked	23
Boiled	12
Chips	8
Browned	7
Scalloped	7
Parslied	6
Hash brown	3
Riced	2
Au gratin	1
Casserole	1
Patties	1
Shoe string	1
Sweet potatoes	
Boiled and baked	6
Candied	3
Green vegetables	
Peas	9
Frozen	10
Spinach	17
String beans	16
Asparagus style	1
Asparagus	15
Brussel sprouts	6

Vegetables (cont.)Welsh Rarebit

1

Green vegetables	
Brussel sprouts	6
Broccoli	4
Beet greens	1
Wilted lettuce	1
Creamed vegetables	
Peas	4
Carrots	3
Asparagus and egg-	1
Cabbage	1
Celery	1
Onion	1
Carrots	
Buttered	16
Glazed	4
and peas	2
Browned	1
Beets	
Buttered	8
Harvard	8
Squash	5
Baked	3
Zucchini	3
Whipped	1
Cabbage	8
Cauliflower	5
Stewed tomatoes	5
Stuffed peppers	4
Corn	
Whole kernel	2
Scalloped	1
Egg plant	1
Sauted parsnips	1
Timbale peas	1
Vegetable plate	1
Beans	
Chili	4
Boston baked	3
Baby limas	2
Aztec bean casserole	1
Boiled	1
Pork and beans	1

PART II

EXHIBIT A

CARDS SHOWING PROCESSES INVOLVED AND NECESSARY AND DESIRABLE UTENSILS FOR THE PREPARATION OF THE MEALS

Cards were prepared for each food or type of food served in the menus analyzed. These shows: (a) the processes necessary to prepare the food, (b) the utensils "necessary" for each process, (c) the utensils "desirable but not necessary" that might be used in place of the utensils listed as "necessary" (Key: o), and the utensils "desirable but not necessary" that would be used in addition to the utensils listed as "necessary" (Key: /)

The material from these cards appears on the following pages for the foods or types of foods that were served more than five times. The same procedure was followed for the foods or types of foods served five times or less.

Utensils that were used, washed, and re-used were placed in parenthesis when re-used. No frequency of the use was tabulated for those utensils that were placed in parenthesis with an asterisk following because these utensils were assumed to be in the kitchen.

Utensils Needed in the Preparation of Food for the Home Management Houses
at Oregon State College

Food or "dish"	Processes	Necessary	Utensils	Desirable
Coffee	Heat water	6-qt. tea kettle		
	Measure water and coffee	Measuring cup and spoon		
	Cook coffee	6-cup and 10-cup coffee makers		
Hot Chocolate	Measure sugar, cocoa, and water	Measuring spoon Measuring cup		
	Cook above	4-quart double boiler 14" wooden spoon		
	Measure milk	(measuring cup)		
	Cook	(double boiler)		
	Beat	Rotary beater		
Tea	Heat water	6-qt. tea kettle		
	Measure tea	Measuring spoon		
	Steep	2-qt. pot Tea ball		

Food or "dish"	Processes	Necessary	Utensils	Desirable
Biscuits Scones Short cake	Measure and sift dry ingredients	Measuring cup Measuring spoons 4" spatula Quart sifter 3-quart bowl		
	Measure fat	(measuring spoons)		
	Cut in fat	Pastry blender		
	Combine	Case tablespoon		Perforated spoon
	Knead, roll	22" pastry board 12" rolling pin		
	Cut and transfer to pan	Cutter (1 $\frac{1}{2}$ ", 2 $\frac{1}{4}$ ") 10" spatula		
	Bake (Biscuits)	Shallow baking pan		
	(Scones)	Two 9" cake pans		
	(Short cake)	Two 9" pie pans		
	Take up	(10" spatula)		
Muffins Griddle cakes Waffles Corn bread	Measure and sift dry ingredients	1-qt. sifter Measuring cup set Measuring spoons 4" spatula 3-qt. bowl		
	Measure and melt fat	(measuring spoons) (cup)		o $\frac{1}{2}$ -pint pan
	Beat eggs	1 $\frac{1}{2}$ -pint bowl Rotary beater		o Bowl with beater

Food or "dish"	Processes	Utensils	
		Necessary	Desirable
Muffins (cont.)	Measure liquid	(measuring cup set)	
	Combine ingredients	1 1/4" wooden spoon	
Muffins	Transfer batter and bake	(wooden spoon)	/ Rubber spatula
		Three 8-cup muffin pans	/ Pastry brush
Waffles	Separate and beat eggs	1-qt. bowl (yolks)	
		2-qt. bowl (whites)	
		4-qt. bowl for mixing	
	Transfer batter and bake	1 1/4" non-perforated spoon Electric waffle iron	(Pitcher)*
	Removing from iron	Case knife and fork	
Griddle cakes	Transfer batter and bake	1 1/4" non-perforated spoon	
		11" frying pan	/ Pastry brush
		1 1/4" turner	o 12" griddle
Corn bread	Bake	Shallow baking pan	

Food or "dish"	Processes	Utensils	
		Necessary	Desirable
Toast	Oven toast	10" fork	
	Toaster	Electric toaster	
	Butter toast	Case knife	
Cinnamon toast	Measuring	Measuring cup Case tablespoon	
	Mixing ingredients	1½-pint bowl (tablespoon)	
French toast	Measuring	Measuring cup	
		Measuring spoons	
		1-qt. bowl	
		¼" spatula	
	Mixing	Rotary beater	
	Frying	10" fork 11" skillet 1¼" turner	o 12" griddle o bread spatula / pastry brush
Sandwiches	Spreading butter	Butter dish Case tablespoon Case knife	o 1-pint bowl
Meat	Sliced meat	Slicing knife	
	Ground meat	Grinder 1-qt. bowl	

Food or "dish"	Processes	Necessary	Utensils	Desirable
Sandwiches (cont.)				
Cheese Peanut butter	Creaming and spreading	1 $\frac{1}{2}$ -pint bowl (tablespoon) (case knife)		
Yeast Rolls (for 2 meals)	Measure liquid and dry ingredients	Measuring cup set Measuring spoons 4" spatula		
	Scald milk	1-qt. sauce pan		
	Soften yeast in water	Utility cup		
	Measure and soften fat	(tablespoon) 1 $\frac{1}{2}$ -pint pan		
	Measure, sift flour into liquid in bowl	Measuring cup 1-qt. sifter 7-qt. bowl		
	Beat eggs	1-pint bowl Rotary beater		
	Beat, adding flour	1 $\frac{1}{4}$ " wooden spoon		
	Knead and bake	22" pastry board 12" rolling pin		
	Parker House rolls	Biscuit cutter Case knife Two shallow pans		
			o Bowl with beater	

Food or "dish"		Processes	Necessary	Utensil	Desirable
Yeast Rolls (cont.)		Clover-leaf rolls	Muffin pan		
		Taking up	10" spatula		
		Storing dough	4-qt. bowl		
Cakes					
Butter cakes	Measure and sift dry ingredients		1-qt. sifter Measuring cup set Measuring spoons 4" spatula (wax paper)*		
	Measure sugar, fat		(measuring cup set) (measuring spoons)		
	Cream fat and sugar		4-qt. bowl 1 1/4" wooden spoon		o Electric mixer
	Separate eggs, beat whites		1-qt. bowl (yolks) 2-qt. bowl		
	Combine and mix		Rotary beater (utensils above)		o (electric mixer) / Rubber spatula
	Prepare pan, bake, and cool		(scissors)* Two 9" round pans or Two 9" square pans Two 11" racks		/ Pastry brush
			Two muffin pans		
Cup cakes		Bake			

Food or "dish"	Processes	Necessary	Utensil	Desirable	
Gingerbread	Measure ingredients	1-qt. sifter			
		Measuring cup set			
		Measuring spoons			
		4" spatula			
		3-qt. bowl			
	Beat eggs and combine liquids	1-qt. bowl			
		Rotary beater			
	Combine ingredients Bake and cool	1-pint pan			
		10" wooden spoon		/ Rubber spatula	
		Two 9" square pans Two 11" racks			
Upside-down cake (cake batter)	Measure and sift dry ingredients	1-qt. sifter			
		Measuring cup set			
		Measuring spoons			
		3-qt. bowl (flat)			
	Beat egg and combine liquids and other ingredients	1-qt. bowl			
		Rotary beater		6 Electric mixer	
		10" wooden spoon		/ Rubber spatula	
	(Fruit mixture)	Measure and prepare	Measuring cup set		
			Measuring spoons		
			Paring knife		
			1½-qt. bowl		
		Baking	9" skillet		

Food or "dish"	Processes	Utensils	
		Necessary	Desirable
Angel cake	Measure and sift flour and sugar	Measuring cup set 1-qt. sifter 4" spatula	
	Separate eggs and beat whites	(storage container)* 4-qt. bowl (whites) Rotary beater Measuring spoons	o Electric mixer
	Folding dry ingredients into whites	Tablespoon Wire whisk or 10" spatula	/ Rubber spatula
	Baking	Tube pan 11" rack	
Icings Seven-Minute	Measure ingredients	Measuring cup Measuring spoons	
	Cook and beat	2-qt. double boiler (deep) Rotary beater 10" wooden spoon	o Electric mixer
	Store egg yolk	Utility cup	
	Spread icing	6" spatula Case tablespoon	

Food or "dish"	Processes	Utensils	
		Necessary	Desirable
Icings Uncooked	Measure and sift	Measuring cup Measuring spoons 1-qt. sifter 1-qt. bowl	
	Measure and melt butter or chocolate	(measuring spoons) (measuring cup)	
	Measure liquid	(measuring cup)	
	Combine and spread	Case tablespoon 6" spatula	
Whipped cream	Measure cream, sugar, and flavoring	Measuring cup Measuring spoons	
	Whip	1-qt. bowl (varies with the amount whipped) Rotary beater	o Bowl with beater
	Spread or serve	Case tablespoon 6" spatula	
Macaroni and Cheese	Measure water, salt and macaroni	Measuring cup Measuring spoons	o Quart measure
	Cook, stir, and drain	4-qt. kettle 14" fork 12" colander	

Food or "dish"	Processes	Necessary	Utensils	Desirable
Macaroni and cheese (cont.)	Grate cheese	Grater 1-pint bowl		
	Prepare bread crumbs	Grinder 1½-qt. pan Case tablespoon		
	Prepare white sauce	(measuring cup) (measuring spoons) 10" wooden spoon		
	Bake	2-qt. sauce pan		o 1½-qt. double boiler
		Casserole 2- and 1½-qt.		
Cooked cereal	Measure water, cereal, and salt	Measuring cup Measuring spoons		/ Quart measure
		2-qt. double boiler		
		10" wooden spoon		
		Case tablespoon		
		6" strainer		
Rice	Drain			
Juice cock- tails	Extract juice	Wall-type juice extractor Short blade knife Chopping board		
	Mix ingredients, add sugar	(Pitcher)* 10" wooden spoon (Utility cup)*		

Food of "dish"	Processes	Utensils	
		Necessary	Desirable
Cookies	Sift and measure dry ingredients	1-qt. sifter	
		Measuring cup set	
		Measuring spoons	
		4" spatula	
	Measure sugar and fat	(measuring cup set)	
	Cream sugar and fat	4-qt. bowl 10" wooden spoon	/ Rubber spatula
Rolled cookies	Beat eggs	1-qt. bowl Rotary beater	o Bowl with beater
	Roll	(flour sifter) 22" pastry board 12" rolling pin	
	Cut and put in pan	Cutter ($1\frac{1}{2}$ " or $2\frac{1}{4}$ ") 10" spatula	o Broad spatula
	Bake	Two baking sheets (size convenient for oven)	/ Pastry brush
Drop cookies	Drop	Case tablespoon 4" spatula	

Food or "dish"	Processes	Necessary Utensils	Desirable
Ice Cream	Scald milk	1 $\frac{1}{2}$ -qt. double boiler	
	Measure ingredients and combine	Measuring cup set Measuring spoons 4" spatula	
	Mechanical refrigerator	2-qt. bowl	
	Hand Freezer	(2 $\frac{1}{2}$ -qt. double boiler and 3-qt. bowl) Rotary beater	
Sherbet	Measure ingredients	Measuring cup set 4" spatula	
	Prepare fruit and juice	Hand-type reamer Grater 1-pint bowl Short blade knife Chopping board	
	Combine ingredients	2-qt. bowl Case tablespoon	
Refrigerator	Freezing and stirring	Freezing tray 3-qt. bowl (rotary beater)	
Hand freezer	Freezing	1-gal. hand freezer (dish pan)*	

Food or "dish"	Processes	Necessary	Utensils	Desirable
Baked custard	Measure ingredients	Measuring cup Measuring spoons		
	Scald milk	2-qt. double boiler		
	Beat eggs, combine	3-qt. bowl Rotary beater 10" wooden spoon		
	Bake	2-qt. casserole Large pan for water	o 12 individual custard cups	
	Test	Case knife		
Whipped gelatin	Measure ingredients	Measuring cup Measuring spoons	o Quart measure	
	Heat water	6-qt. teakettle		
	Combine ingredients	3-qt. bowl 10" wooden spoon		
	Beat	Rotary beater		
Gelatin fruit	Prepare gelatin	Above utensils except beater		
	Prepare fruit	(Utensils listed for preparation of the individual fruit)		

Food or "dish"	Processes	Necessary	Utensils	Desirable
Tapioca cream	Measure ingredients	Measuring cup Measuring spoons		
	Scald milk and cook tapioca	2-qt. double boiler 10" wooden spoon		
	Beat eggs and combine ingredients	3-qt. bowl (wooden spoon)	/	Rubber spatula
	Cook	(double boiler)		
	Beat egg whites	2-qt. bowl (rotary beater)		
Cornstarch pudding	Measure ingredients	Measuring cup Measuring spoons 4" spatula		
	Mix ingredients	$\frac{1}{2}$ -pint bowl 10" wooden spoon		
	Scald milk and cook	$2\frac{1}{2}$ -qt. double boiler (wooden spoon)		
	Cool	(double boiler)	o	12 custard cups

Food and "dish"	Processes	Necessary	Utensils	Desirable
Fruit Whip (unbaked)	Measure ingredients	Measuring cup Measuring spoons 1/4" spatula		
	Prepare fruit and lemon juice	Short blade knife Chopping board Hand-type reamer		
	Beat egg whites	1-qt. bowl Rotary beater		o Bowl with beater
	Store egg yolks	Utility cup		
	Combine ingredients	2-qt. bowl 10" wooden spoon		
Breadcrumb dressing	Measure ingredients	Measuring cup Measuring spoons 1/4" spatula		
	Melt butter	1/2-pint pan		
	Mix ingredients	1 1/2-qt. bowl Case tablespoon		
Eggs Scrambled	Mix ingredients	2-qt. bowl Case fork (salt and pepper shakers)*		
	Cook and dish-up	10" skillet Case tablespoon		

Food or "dish"	Processes	Necessary	Utensils	Desirable
Eggs (cont.)				
Cooked in the shell	Cook	3-qt. sauce pan, flat		
		Perforated spoon		
Deviled	Cool	1-qt. bowl		
	Measure and mix ingredients	Measuring spoons Case fork Case tablespoon Case knife Short blade knife Chopping board		
	Stuff eggs	Case teaspoon		
Fried eggs	Break eggs and slip into pan	(sauce dish)* 10" skillet		
	Put fat in pan and baste eggs	Case tablespoon		
	Take up, turn	1/4" turner		
Fruit Juice				
Canned	Punch hole in can	Hand-type can opener		
Orange	Halve and juice oranges	Short blade knife Chopping board Wall-type juice extractor		

Food or "dish"	Processes	Necessary	Utensils	Desirable
Fruit				
Canned	Opening can	Wall-type opener		
	Dishing fruit	Case tablespoon		
Grapefruit	Halve and section	Short blade knife		
		Chopping board		
		Paring knife		o Grapefruit knife
Sliced oranges and bananas	Peel and slice	Short blade knife		
		Chopping board		
Apple sauce	Pare and wash	(dish pan)*		
		Paring knife		o Apple parer and corer
	Holding pared fruit	2-qt. bowl		
	Cook	4-qt. sauce pan		
		10" wooden spoon		
	Sieve and add sugar	6" sieve with roller (utility cup)*		
Baked Apple	Wash and core	(Utensils above)		
	Bake and season	Large pan		
		Case tablespoon		
		$\frac{1}{2}$ -pint bowl		
	Test and remove from pan	Perforated spoon 18" fork		

Food or "dish"	Processes	Necessary	Utensils	Desirable
Fruit (cont.)				
Stewed, dried	Wash and soak	3-qt pan		
	Cook	3-qt. sauce pan Case tablespoon (Utility cup)*		
Fruit cup	Open canned fruits	Wall-type opener		
	Dice and mix fruit	Short blade knife Chopping board 3-qt. bowl Case tablespoon		
	Store small amounts of fruit	1-qt. bowl 1-pint bowl		
Gravy, meat	Measure flour	Case tablespoon		
	Stir flour in fat, add liquid and stir	1 1/4" perforated spoon Measuring cup		
	Take up	Ladle		
Meats				
Pan fried Chops Bacon Link Sausages	Slice meat	8" knife Chopping board		
	Cook	10" and 11" skillet 10" fork	✓ With cover for pork and veal	

Food or "dish"	Processes	Necessary	Utensils	Desirable
Meats (cont.)				
Broiled	Cook	Broiler pan 10" fork		
Breaded	Beat egg	1-pint bowl Rotary beater		
	Grind bread	Grinder 9" round pan		
	Bread chops	(9" cake pan) $\frac{1}{2}$ -pint pan		
	Cook	11" skillet, lid 10" skillet, lid 10" fork	/ Roaster	
Swiss steak	Add flour, pound	Utility cup Case tablespoon Saucer		o Mallet
	Slice onions	Chopping board Paring knife		o Short blade knife
	Cook	11" skillet, lid 1 $\frac{1}{4}$ " fork 1 $\frac{1}{4}$ " metal spoon		o Roaster
Roasts	Cook and slice (if done in kitchen)	Roaster 10" fork Carving knife		

Food or "dish"	Processes	Necessary	Utensils	Desirable
Meats (cont.)				
Cold, sliced	Slice	10" fork Chopping board Slicing knife		
Meat Pie	Cut meat and onion	Chopping board Utility knife Short blade knife		
	Saute onion and brown meat	11" skillet 14" fork Case tablespoon		o Dutch Oven
	Measure, add water and seasonings	Measuring cup Measuring spoons (tablespoon)		
	Mix flour and water	1-pint bowl (tablespoon)		
	Pastry	2-qt. bowl Measuring cup set Measuring spoons 4" spatula 1-qt. sifter Pastry blender Case fork 22" Pastry board 12" rolling pin		/ 10" spatula
	Bake	Casseroles (2qt. and 1½-qt.)		

Food or "dish"	Processes	Necessary	Utensil	Desirable
Meats (cont.)				
Meat Loaf	Measure and mix ingredients	Measuring cup set Measuring spoons 2-qt. bowl Perforated spoon		
	Cook	Two one-loaf bread pans		
	Dish up	Broad spatula Slicing knife		
Creamed	(Sliced or chopped meat and white sauce combined)			
Patties	Grind and mix ingredients	Grinder 3-qt. bowl Measuring spoons Perforated spoon		
	Cook	9" and 10" skillet Turner 10" fork		o Broad spatula
Pastry	Measure and sift dry ingredients	Measuring cup set Measuring spoons 4" spatula 1-qt. sifter		
	Mix	4-qt. bowl Pastry blender Case fork		

Food or "dish"	Processes	Necessary	Utensil	Desirable
Pastry (cont.)	Roll	22" pastry board 12" rolling pin		/ 10" spatula
	Prick crust, moisten edge	(case fork) (measuring cups)		
	Bake	Two 9" pie pans		
Apple pie	Wash, pare, and slice	(dish pan)* Paring knife 3-qt. bowl		/ Apple parer and corer
	Measure and mix	Measuring cup 1-pint bowl Measuring spoons Tablespoon		o Quart measure
Cream Pie filling	Measure ingredients	Measuring cup Measuring spoons 4" spatula		
	Mix dry ingredients	2-qt. bowl		
	Separate and beat eggs	3-qt. bowl 1-qt. bowl Rotary beater		
	Scald milk and cook mixture	2 $\frac{1}{2}$ -qt. double boiler 10" wooden spoon		

Food or "dish"	Processes	Necessary	Utensils	Desirable
Cream pie (cont.)	Beat egg whites, add sugar	3-qt. bowl Rotary beater (measuring spoons)		
	Spread meringue	6" spatula		
	Take up	Broad spatula		
Syrup	Measure and cook	Measuring cup 1-qt. sauce pan Case tablespoon		
Relishes Celery, radishes, carrot sticks	Wash, scrape, cut	(Dish pan)* (Vegetable brush)*		
	Soak in ice water	3-qt. pan		
Salad dressing				
Mayonnaise	(Purchased at the store			
French	Measure ingredients	Measuring cup Measuring spoons 4" spatula		
	Prepare onion or garlic	Paring knife		
	Mix	(Glass fruit jar)*		

Food or "dish"	Processes	Necessary	Utensils	Desirable
Salads				
Fruit	Prepare fruit	(Dish pan)*		
	Apples	Paring knife		o Short blade knife
		Chopping knife		
		Chopping board		
		1 $\frac{1}{2}$ -qt. bowl		
	Grapefruit, oranges	Short blade knife		/ Grapefruit knife
		2-qt. bowl		
		Case fork		
		Short blade knife		
	Canned fruit	Wall-type opener		
		2-qt. bowl		
		Case fork		
		Short blade knife		
	Drain fruit	Strainer or colander		
	Mix salad	4-qt. bowl		
		1 $\frac{1}{4}$ " wooden spoon		o Salad spoon and fork
		(case fork)		
	Mix salad dressing	1-qt. bowl		
		Case tablespoon		
		Rotary beater		
	Prepare lemon juice	(short blade knife)		
		Hand-type reamer		

Food or "dish"	Processes	Necessary	Utensils	Desirable
Salads (cont.)	Measure ingredients	Measuring cup		o Quart measure
Gelatin		Measuring spoons		
	Soften gelatin	Utility cup		
	Dissolve gelatin	3-qt. bowl		
		Case tablespoon		
	Prepare fruit or vegetable	(Listed under separate items)		
	Mold	12 gelatin molds	/	Pastry brush
Tuna	Prepare tuna for salad	Wall-type opener		
		Case fork		
		Case tablespoon		
		1-qt. bowl		
Nuts	Crack and chop nuts	Nut cracker		
		Chopping knife		o Nut chopper
		Chopping board		
		$\frac{1}{2}$ -pint bowl		
Fresh vegetables	Wash and chop vegetables	(Dish pan)*		
		Paring knife		
		Chopping knife		
		Chopping board		
	Cabbage, carrots	Shredder		
	Store during preparation	1-qt. to 2-qt. bowls		
	Tomatoes	3-qt. sauce pan		
		Dipping basket		

Foods or "dish"	Processes	Necessary	Utensils	Desirable
Salads (cont.)				
Canned vegetables	Open can, prepare	Wall-type opener 2-qt. bowl Short blade knife Chopping board		
Potato	Boiled potatoes	(See under potatoes)		
	Cook eggs	3-qt. sauce pan, flat Perforated spoon		
	Slice vegetables, combine with dressing	Short blade knife 4-qt. bowl Case tablespoon Case fork Perforated spoon		
Sauces				
Tomato	(Canned hot sauce used)			
White	Measure ingredients	Measuring cup Measuring spoons		
	Mix and cook	2-qt. double boiler 10" wooden spoon		

Food or "dish"	Processes	Necessary	Utensils	Desirable
Sauces (cont.)	Prepare white sauce	(Utensils listed)		
Cheese	Prepare cheese	Short blade knife Grater 1-qt. bowl		
Soup	Prepare meat, brown	Butcher knife Chopping board 11" skillet 10" fork		
Vegetable	Simmer meat	8-qt. kettle		
	Prepare vegetables	(Dish pans)* (Vegetable brush)* Short blade knife		
	Hold vegetables	1½-qt. bowl 2-qt. bowl		
	Cook and dip	(kettle) 1¼" wooden spoon Ladle		
Cream	Measure ingredients	Measuring cup Measuring spoons	o Quart measure	
	Mix and cook	4-qt. double boiler 1¼" wooden spoon ½-pint bowl Ladle		

Food or "dish"	Processes	Necessary	Utensils	Desirable
Vegetables				
Potatoes, white	Wash	(Dish pan)* (Vegetable brush)*		
	Bake	18" fork		
	Pare and store for cooking	Paring knife 2-qt. bowl		o Potato parer
	Boil	4-qt. pot 10" fork		
	Mash, heat milk	Masher 1 $\frac{1}{2}$ -pint pan Case tablespoon		
	Browned	(Utensils for boiled) Utility knife 10" skillet Case tablespoon		
	Parslied	(Utensils for boiled)		
	Wash, chop parsley	3-qt. pan (Kitchen scissors)*		
	Add butter, parsley	Case tablespoon		
	Scalloped (boiled and white sauce)			
	Bake	2-qt. casserole	/	Pastry brush

Food or "dish"	Processes	Necessary Utensils	Desirable
Vegetables			
Sweet potatoes	Wash	(Dish pan)* (Vegetable brush)*	
	Bake	18" fork	
	Boil	Paring knife 2-qt. bowl 4-qt. sauce pan 10" fork	
Frozen peas	Cook and season	3-qt. sauce pan Case tablespoon Case fork	
Green, leafy	Wash	(Dish pan)* Paring knife	
Spinach, Brussel sprouts	Spinach Store	4-qt. bowl	
	Cook	8-qt. kettle 11 1/4" fork Case tablespoon	
	Brussel sprouts Store	3-qt. bowl	
	Cook	4-qt. sauce pan 10" fork Case tablespoon	

Food or "dish"	Processes	Necessary	Utensils	Desirable
Vegetables (cont.)				
Asparagus	Prepare and tore	(Dish pan)*		
		(Vegetable brush)*		
	Cook	Short blade knife		
		Chopping board		
		3-qt. flat pan		
		4-qt. sauce pan		o Asparagus cooker
	Season and test	Case tablespoon		
		10" fork		
Canned vegetables	Open and heat	Wall-type opener		
		3-qt. sauce pan		
		Case tablespoon		
		Case fork		
Carrots	Prepare and store	(Dish pan)*		
		(Vegetable brush)*		
	Cook, season, test	Paring knife		
		2-qt. bowl		
		3-qt. sauce pan		
		Case tablespoon		
		10" fork		
	Glazed	10" skillet		
		Utility cup		

Food or "dish"	Processes	Necessary	Utensils	Desirable
Vegetables, (cont.)				
Beets	Prepare	(Dish pan)*		
		(Vegetable brush)*		
		Short blade knife		
		Chopping board		
	Cook	6-qt. kettle		
		14" fork		
	Drain and peel	Colander		
	Slice or dice and store	Chopping knife		
		Chopping board		
		2-qt. bowl		
	Buttered	3-qt. sauce pan		
		Case tablespoon		
		10" fork		
	Harvard Making sauce	2-qt. sauce pan		o 1½-qt. double boiler
		Measuring cup		
		Measuring spoons		
		4" spatula		
	Heat and mix	10" wooden spoon		
		3-qt. sauce pan		
		Case tablespoon		

Food or "dish"	Processes	Necessary	Utensils	Desirable
Vegetables (cont.)				
Squash	Baked			
	Prepare and cut	(Dish pan)* Utility knife or (axe)* Case tablespoon		o Kleaver
	Bake	Large pan 18" fork		
	Test and remove from oven	Turner		
	Boiled			
	Prepare	(above utensils)		
	Cook	4-qt. sauce pan 10" fork		
Cabbage	Prepare	(Dish pan)* Short blade knife		
	Cook	6-qt. kettle		
	Season, test	Case tablespoon 14" fork		

PART II

EXHIBIT B

SOME TYPICAL PROCESSES WHICH WERE ASSIGNED
TO THE VARIOUS UTENSILS LISTED

EXHIBIT B

SOME TYPICAL PROCESSES WHICH WERE ASSIGNED TO THE VARIOUS UTENSILS LISTED

Sauce Pans, Pots, Kettles, Pans, and Double Boilers assigned for use in such processes as cooking or warming unless otherwise indicated.

1 quart sauce pan

1. Small amounts, such as sauces
2. Syrup

2 quart sauce pan

1. Sauces for vegetables and meats
2. Cinnamon apples when small amounts of syrup were used.
3. Cream puff mixture for shells

3 quart flat bottom sauce pan

1. Canned asparagus or other foods which are easily crushed.
2. Eggs
3. "Asparagus pack" string beans
4. Frozen peas

3 quart deep sauce pan

1. Most canned vegetables served to the number of people regularly residing in the home management house
2. Vegetables, such as zucchini squash
3. Stewed fruits

4 quart sauce pan

1. Clam chowder
2. Soup--cream or vegetable
3. Macaroni, spaghetti, etc.
4. Vegetables such as broccoli, brussel sprouts, etc.
5. Apple sauce, rhubarb sauce, etc. when cooked for more than one meal

4 quart pot

1. Mashed potatoes
2. Chicken for salad, loaf, or creaming
3. Stewed dried fruit when prepared for more than one meal.
4. Cabbage

6 quart kettle

1. Chicken fricasse
2. Saurkraut and weiners or spareribs
3. Cabbage

8 quart kettle

1. Spinach
2. Hot chocolate for large groups
3. Hot water for teas

1/2 pint pan

1. Melting fat or chocolate
2. Softening butter for sandwich making

1 pint pan

1. Melting fat
2. Mixing materials with melted fat

1 1/2 pint pan

1. Eggs for salad
2. Milk to be added to mashed potatoes

3 quart pan

1. Soak carrot and celery curls
2. Soak dried fruit

Asparagus cooker

1. Asparagus

Deep-fat frying kettle

1. Croquettes
2. Shoe string potatoes

1 quart double boiler

1. Small amounts of sauce

1 1/2 quart double boiler

1. Custard for Floating Island, etc.
2. Scald milk when small amounts needed

2 quart double boiler

1. Scald milk

2 quart double boiler-Continued.

2. Seven-minute icing
3. Cooked cereal

2 1/2 quart double boiler

1. White sauce
2. Cream or lemon pie filling

4 quart double boiler

1. Hot chocolate when seconds are served
2. Cream soups

Mixing Bowls assigned for the following processes:

1 pint bowl

1. Storing small amounts of food during food preparation.
2. Beating 1 egg

1 1/2 pint bowl

1. Combining liquids for muffins, griddle cakes, etc.
2. Beating 2 eggs
3. Mixing filling for sandwiches
4. Storing small amounts of food prepared ahead of time

1 quart bowl

1. Combining liquids for pop-overs
2. Mixing sandwich filling
3. Mixing sauces (tartar)
4. Storing fruits or vegetables for salads

1 1/2 quart bowl

1. Storing fruits or vegetables for salads
2. Mixing small amounts of food

2 quart bowl

1. Mixing foods when volume of mixture not over one quart
2. Beating egg whites for waffles, souffle, etc.
3. Preparing scrambled eggs
4. Holding vegetables after paring

3 quart bowl

1. Mixing biscuits, brown bread, griddle cakes, muffins, etc.
2. Combining materials for baked custard
3. Combining materials for left-over meat dishes

4 quart bowl

1. Mixing waffle batter
2. Storing extra dough from yeast rolls
3. Holding spinach after washing
4. Mixing cookies
5. Mixing angel food cakes

7 quart bowl

1. Yeast rolls
2. Large cooky recipes

Other Cookers

Insulated cooker

1. Chili con carne
2. Stew
3. Chicken fricasse
4. Simmered chicken

Steamer

1. Steamed puddings

Dutch oven

1. Pork or veal chops
2. Swiss steak
3. Pot roast

Roaster

1. Pork or veal chops
2. Swiss steak
3. Pot roast
4. Roast

Broiler pan

1. Oven-made toast
2. Broiled steaks, bacon, and liver
3. Toasted sandwiches

Teakettle

1. Heat water for coffee and tea
2. Heat water for gelatin

Baking Pans assigned for baking unless otherwise indicated.

Baking sheets

1. Cookies
2. Cream puff shells

Shallow baking pan

1. Biscuits and yeast rolls
2. Heating rolls and French bread
3. Heating stuffed baked potatoes
4. Cornbread

Muffin pans

1. Muffins
2. Clover leaf (yeast) rolls
3. Individual pastry shells and bread timbales
4. Cup cakes

Round cake pans

1. Cakes
2. Scones
3. Breeding chops, etc.

Square cake pans

1. Cakes
2. Brownies
3. Gingerbread
4. Coffee cake

Angel cake pan

1. Angel food cake

Loaf bread pan

1. Bread
2. Molding cooked cereal to be fried
3. Molding salads
4. Meat loaf--hot or cold

Large pan

1. Water for custard, etc. while baking.
2. Hold ring mold while baking

Pie pans (9")

1. Pies
2. Use with meat grinder

Baking Dishes assigned to the following foods:

Casseroles (2 sizes used simultaneously)

1. Souffle and fondue
2. Baked puddings and custards
3. Baked beans
4. Tamale pie

Ramekins

1. Individual meat pies
2. Individual meat loaf
3. Noodle, spaghetti, etc. baked dishes

Custard cups

1. Custard
2. Individual baked pudding

Bean pot (1 1/2 quart)

1. Baked beans

Measuring Spoons, Cups, etc. with processes assigned to them.

Measuring spoon set

1. Whenever it was desirable to measure one tablespoon, teaspoon, half-teaspoon, or fourth-teaspoon of material.

Measuring cup set

1. Used whenever a fraction of a cup of non-liquid material was listed.

Measuring cup

1. Listed for liquid measure unless more convenient to use part of measuring cup set already in use.

Quart measure

1. Large quantities of milk or water
2. Filling for pies

Cup

1. Hydrating gelatin
2. Mixing junket with water
3. Holding egg yolk while carrying out other preparation

Case Knife, Forks, Spoons, Spatulas used in preparing the following foods:

Case knife

1. Spreading butter and filling on sandwiches
2. Testing custards and custard-like mixtures

Case fork

1. Testing vegetables
2. Adding water when making pie crust

10" fork

1. Removing toast from boiler
2. Pan broiling meat
3. French toast
4. Testing vegetables

14" fork

1. Stew, chicken fricasse, etc.
2. Stirring noodles, spaghetti, etc.

18" fork

1. Remove baked potatoes from oven
2. Aid in handling large roast

Case teaspoon

1. Tasting
2. Drop cookies

Case tablespoon

1. Mixing sandwich filling and other small amounts of food.
2. Dishing up fruits and vegetables
3. Cooked custard

Perforated spoon

1. Removing cooked eggs from water
2. Stirring gravy

Non-perforated spoon

1. Waffles
2. Pot roast

10" wooden spoon

1. Mixing batters
2. Stirring sauces
3. Stirring pie filling

14" wooden spoon

1. Mixing large amounts of batter
2. Chili con carne and rice

4" spatula

1. Levelling goods measured in measuring cups and spoons

6" spatula

1. Spreading icing on cake
2. Spreading meringue on pie

10" spatula

1. Transfer cookies, biscuits, etc. from board to pan
2. Omelet

Rubber spatula

1. Scraping bowl and spoons when batters were made

Broad spatula

1. Dishing up pie
2. French toast
3. Use with pan fried meat

Turner

1. Griddle cakes
2. Fried eggs

Salad spoon and fork

1. Tossing fruit or vegetable salad

Cutting Knives assigned to the following uses:

2 1/2" blade paring knife

1. Paring fruits and vegetables

4"-5" knife

1. Halving oranges and grapefruit
2. Paring and chopping peaches, apples, etc.

Chopping knife

1. Chopping fruits, nuts, vegetables, etc.

Slicing knife

1. Slicing cold meat
2. Slicing ham, etc.

Utility knife

1. Cutting meat and chicken
2. All-purpose knife

Carving knife

1. Carving roasts, and chicken
2. Carving steaks

Grapefruit knife

1. Sectioning grapefruit and orange halves

Special knife for making carrot curls

1. Carrot curls
2. Radish roses

Potato parer

1. Paring potatoes
2. Paring other vegetables and fruits

Potato slicer

1. Scalloped potatoes

Apple parer and corer

1. Paring apples
2. Coring apples
3. Paring other fruits and vegetables

Kleaver

1. Cutting squash
2. Cutting meat

Beaters used in preparing the following foods:

Rotary beater

1. Eggs and cream
2. Seven minute icing
3. Batters and sauces

One cup beater

1. Anything in small enough amount to be beaten in one cup

Wire whisk

1. Egg whites
2. Folding egg whites into mixtures

Beater from electric mixer

1. Cakes
2. Mayonnaise
3. Eggs
4. Seven minute icing

Pastry Utensils assigned to the following uses:

Flour sifter

1. Sifting flour, sugar, and other dry ingredients

Pastry blender

1. Cutting fat into flour

Pastry board

1. Rolling cookies, pastry, and doughs
2. Kneading dough

Rolling pin

1. Rolling cookies and pastry
2. Rolling dough--biscuits, yeast rolls

Cutters

1. Cutting biscuits, cookies, and other dough

Cake racks

1. Cooling cakes and breads

Cooky press

1. Making fancy cookies

Pastry brush

1. Greasing baking pans and griddle
2. Buttering top of rolls

Miscellaneous Openers and their uses.

Hand-type can opener

1. Opening canned foods when not in the kitchen

Wall-type can opener

1. Opening all cans of food in the kitchen

Bottle opener

1. Opening bottles

Juice Extractors and their uses.

Hand-type

1. When small amount of juice was needed

Wall-type

1. When larger amount of juice was extracted

Strainers, Colandar, Sieve, and Baskets and their uses.

Strainer

1. Straining rice, macaroni, etc.
2. Straining fruits and vegetables

Colandar

1. Washing and draining fresh berries

Sieve with wooden roller

1. Sieving fruit for whips
2. Pureeing vegetables

Dipping basket

1. Dipping tomatoes in hot water
2. Deep fat frying

Miscellaneous Molds assigned to the following foods:

1 quart mold

1. Spanish cream
2. Bavarian

1 1/2 quart mold

1. Carrot pudding

Gelatin molds

1. Gelatin salads
2. Gelatin desserts

Cans for steaming

1. Making brown bread
2. (Could have been used for carrot pudding)

Ring molds

1. Salads and meats

Miscellaneous Utensils and their uses.

Masher

1. Mashing potatoes, squash, and other vegetables

Ricer

1. Ricing potatoes

Chopping board

1. Cutting meat
2. Chopping fruits and vegetables

Grinder

1. Grinding meat
2. Grinding bread crumbs

Mallet

1. Pounding steaks

Skewers

1. Used in the preparation of stuffed chops, veal birds, and rolled roast.

Ladle

1. Dishing soups and stew