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T H E S I S

on

COMPARISON OF INDIVIDUAL MANAGEMENT AND CENTRALIZED
PLANNING AND SUPERVISION OF MENUS AND FOOD PURCHASING
BY A FOOD DIRECTOR FOR TWELVE SORORITY GROUPS AT ORE-
GON STATE COLLEGE

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by

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INTRODUCTION

Factors Inspiring the Study

The welfare of the Greek letter organizations at Oregon State College has always been a matter of interest to the College Administrators. Supervision and advice have been given on social activities, housing and building programs, financial problems and the organization of a Cooperative Managers' Association.

Assistance given along these various lines inspired an interest in finding whether there was a need of closer supervision of young and inexperienced commissary managers who have the responsibility of planning palatable and well-balanced meals and of ordering food of suitable quality and quantity on a limited budget.

An experiment was planned to ascertain whether the managers of the sororities needed help and to test the effect of supplementing their management with the services of an experienced dietitian trained in institutional management.

Review of Other Studies

Hawley (1) in 1929 investigated the need of

dietitians in charge of student diets. "This study was undertaken partly for the purpose of determining whether the fraternities and sororities which are depended on in many colleges and universities to provide housing and food for the students were meeting their responsibilities. The food served there is seldom under the supervision of persons trained in food values."

In her circular "Nutritive Value and Cost of Food Served to College Students" Hawley compared and analyzed the results of the investigators at 93 institutions with extensive studies made in 1916 and 1926 by the Bureau of Home Economics, also with results of studies in 23 residence halls made by Hunt in 1926-27 at Washington State College. Hawley concludes that "Comparison of the nutritive value of diets planned by dietitians with those planned by persons untrained in food values shows that the dietitian's diets were more nearly adequate in every respect."

West (2) and Trump (3) report the results of the study of an experiment made in 1930 at Kansas State Agricultural College, where "the need of intelligent supervision of the food units" in the sorority and fraternity houses was recognized by the Administrators of the college and the sponsors of the various organizations. Through the department of Institution Economics

the services of a food director were made available to groups desiring assistance. The director planned palatable, well-balanced meals, purchased food supplies, gave some supervision to food preparation and kept an accurate record of food costs. A moderate monthly charge was made to participating groups to help defray the expenses of operating the plan. West (2) reports the success of the experiment and the continuation of the plan.

Raitt (4), 1926, gives an account of an investigation of the cost and adequacy of diets for college women in twelve organized groups at the University of Washington. She found that sufficient protein and total calories were supplied but in several groups the amounts of calcium, phosphorus or iron were below the standard. The average cost was 42 cents per person per day.

Kramer and Grundmeir (5) in 1926 made a study of the food served in twenty organized groups at Kansas State College. The meals planned by untrained or inexperienced managers were found to be adequate in protein and total calories but lacking in calcium in 70 per cent of the groups, and in iron in over 50 per cent.

In 1929 Grace (6) at Oregon State College studied the nutritive value and cost of food planned by the

managers of nine sorority groups. Comparisons were made between the food value and food costs in these nine groups and value and costs in two Home Management Houses and one dormitory which was under the direction of a dietitian. It was concluded that: "Groups of college women can maintain a satisfactory standard of nutrition at a cost not exceeding 49 cents per day, providing knowledge of nutritive values and wise buying methods are employed."

The studies made at these various institutions show that the greatest criticism comes not from the fact that too much money is being spent for food in these groups, but that the diets planned by untrained persons are often lacking in essential minerals and vitamins and in some cases, are lacking in calories.

PURPOSE OF THE STUDY

With these references to the beneficial effect of supervision of students' diets in other universities and colleges, the purpose of this study for Oregon State College was two-fold:

1. To make a comparison of the cost and adequacy of food served in the sorority groups at Oregon State College

- a. Under the system of individual management now used in each group
 - b. Under the centralized planning of menus and food purchasing by the food director specially trained in institutional management
2. To find a means of giving more definite and practical assistance to the individual managers.

PLAN OF PROCEDURE OF STUDY

Participation of Sorority Groups

Twelve organized sorority groups on the Oregon State College campus cooperated in making this study. These groups include Alpha Chi Omega, Alpha Gamma Delta, Alpha Omicron Pi, Beta Phi Alpha, Chi Omega, Delta Delta Delta, Delta Zeta, Gamma Phi Beta, Kappa Delta, Kappa Kappa Gamma, Pi Beta Phi and Sigma Kappa.

System of Individual Management in Each Group

In all groups there is an established uniform system of management. A commissary manager appointed in each group plans the meals, orders supplies and directs the work of the cook. The faculty financial adviser of the groups recommends that the commissary manager

chosen be an upper-class student in Home Economics. In some cases, however, because they need the financial assistance, students with no Home Economics training are appointed to manage the commissary. The student manager seldom continues her services for more than one year. The frequent changing of these managers is doubtless a handicap to efficiency.

At the time this study was made five of the managers were upper-class students majoring in Home Economics, one was a Sophomore in Home Economics, two were Commercial students, one was a Sophomore in Vocational Education, and three were housemothers.

Divisions of the Experiment

This study was divided into two periods of four weeks each so that it would be possible to make comparisons between individual management and centralized planning of menus and food purchasing as carried on by the food director.

First Period - January 15 to February 11, 1932.

This period will be referred to in the discussion as the first period or the period under individual management. During this time the regular commissary manager in each group planned the meals, purchased sup-

plies, directed the work of the cook, and took the inventories at the beginning and end of the period. A study of this individual management was made by the food director for the second period during regular scheduled visits to each house twice per week at which time conferences were held with the commissary manager. Copies of the menus used in each group were collected; detailed records were kept of amounts and cost of each item of food purchased, and of the number of meals served. Purchasing habits of the individual managers were studied, storage rooms inspected, and the use of left-over food noted.

Second Period - February 12 to March 10, 1932.

This period will be referred to as the second period or the period under the centralized planning of the menus and food purchasing by the food director, who continued to make scheduled visits to the houses under investigation.

In this period uniform menus for all of the houses were planned by the food director and submitted to each group one week in advance. In order to make a study of comparative costs for all of the groups, changes in the menus submitted were permitted only when necessary; that is to allow for the use of left-overs, for substitution for foods unpopular within the group, and for

special party meals. If changes in the menus of the food director were made they were noted on the menu sheet and kept for reference and study. Standard recipes were furnished to the cooks for new or unusual dishes on the menu. A uniform order for supplies for all groups could not be given by the food director because of varying numbers in the different groups and the amount of supplies on hand. Each commissary manager was furnished with an order sheet giving a list of supplies needed for the week's menus stating quantities sufficient for serving twenty persons. From this list each manager ordered the foods needed. Specific directions in regard to cuts of meat, grades of canned goods, and other special directions for ordering were given on these sheets. Canned goods and staple supplies were ordered in as large quantities as could be conveniently stored without waste. Extensive quantity buying was impractical for some groups because of the lack of suitable storage space.

During the visits to the houses in this second period conferences were held with the managers for securing records of changes made in the menu, foods purchased, and number of persons served. Conferences were held also with the cooks, to whom were given directions, recipes, and suggestions for carrying out the menus sub-

mitted.

Methods of Food Purchasing

All fraternity and sorority groups on the Oregon State College campus are members of the Cooperative Managers' Association and under contract to purchase all food and supplies from this association. The advantages of this arrangement are as follows: (1) All groups pay uniform prices and receive the benefit of wholesale buying. (2) Purchases may be made in smaller quantities if storage space and refrigeration are inadequate. (3) The necessity of personal shopping on the part of the managers of the various houses is eliminated, due to the careful selections of desirable goods on the part of the manager of the association. There is in this study no question of better prices between the two periods or between different groups as all food used in both periods was purchased through the Cooperative Managers' Association.

Methods of Obtaining Data

At the beginning and end of each period uniform mimeographed sheets were provided for inventories taken by the managers and food director. (Sample shown on page 10.)

FOOD INVENTORY

HOUSE _____

DATE _____

	<u>Amount</u>	<u>Cost</u>
Beverages		
Chocolate	_____	_____
Cocoa	_____	_____
Coffee	_____	_____
Postum	_____	_____
Tea	_____	_____
Bread	_____	_____
Breakfast Cereals		
Cornflakes	_____	_____
Cornmeal	_____	_____
Cream of Wheat	_____	_____
Grapenuts	_____	_____
Hominy	_____	_____
Puffed	_____	_____
Rice	_____	_____
Rolled Oats	_____	_____
Shredded Wheat	_____	_____
Catsup	_____	_____
Chili Sauce	_____	_____
Cocoanut	_____	_____
Cornstarch	_____	_____

	<u>Amount</u>	<u>Cost</u>
Fruit		
Canned		
Apricots	_____	_____
Cherries	_____	_____
Loganberries	_____	_____
Peaches	_____	_____
Pears	_____	_____
Pineapple	_____	_____
Plumes	_____	_____
Raspberries	_____	_____
Strawberries	_____	_____
Dried		
Dates	_____	_____
Raisins	_____	_____
Fresh		
Apples	_____	_____
Bananas	_____	_____
Lemons	_____	_____
Oranges	_____	_____
Gelatine		

As has been stated throughout the two periods of eight weeks, two regular scheduled visits per week were made to each house, when copies of menus used were collected. Daily itemized records of food purchased were kept by the food director on sheets provided especially for this purpose. (Sample shown on page 12.) The records of number of meals served each day to resident members, pledges, employees, and guests were kept by the managers. (Sample shown on page 13.)

ANALYSIS OF DATA OF STUDY

Comparative Study of Selection of Food

Menus planned by dietitians for groups of college women are more or less uniform. They consist of a variety of foods which compare favorably with family standards suggested by Sherman (7) and Rose (8).

An acceptable plan for an adequate breakfast for students consists of fruit every morning, including fresh fruit two or three times a week, cereal or eggs, or both, bread, butter and choice of coffee, chocolate, or milk. Jam or preserves may be added occasionally. There should be variety in all parts of the meal.

Lunch should consist of at least two of the follow-

Organization _____

Commissary Manager _____

Week No. _____ Dates included _____

FOODS AND KITCHEN SUPPLIES PURCHASED DURING THE STATED PERIOD OF TIME

FOOD	Fri. Qty.	Cost	Sat. Qty.	Cost	Mon. Qty.	Cost	Tues. Qty.	Cost	Wed. Qty.	Cost	Thur. Qty.	Cost	Totals for	
													Qty.	Cost
Beverages														
Chocolate														
Cocoa														
Coffee														
Postum														
Tea														
Bread														
Rolls														

ORGANIZATION _____

Manager _____

Week No. _____ Dates _____

NUMBER OF MEALS SERVED

	Friday			Saturday			Sunday			Monday			Tuesday			Wednesday			Thursday			Totals for week		
	B	L	D	B	L	D	B	L	D	B	L	D	B	L	D	B	L	D	B	L	D	B	L	D
Members																								
House-																								
mother &																								
Employees																								
Pledges																								
Guests																								

Remarks on special entertainment:

ing foods: soup, a hot main dish, salad, dessert, always accompanied by bread and butter or sandwiches or a beverage. Whether or not two of the four dishes mentioned are sufficient depends on the foods used and the quantity served. A noon lunch high in calories is neither wise nor desirable for students.

For dinner, a meat or meat substitute, two vegetables - one green or yellow - a salad or its equivalent, and a dessert should be included. Coffee may be served at least occasionally. A pint of milk per day used in cooking or as a beverage should be allowed for each person.

Menus of Individual Managers in First Period

The menus of each individual manager were analyzed and classified. Since the scope of this study did not include the calculation of actual nutritive and caloric value of the food used, the adequacy of the diet in each group was judged according to the general plan described above.

The per capita costs per meal of the twelve sorority groups were divided into three classes according to their relation to the average per capita cost for all of the groups. This average per capita cost

for the first period was 33.7 cents. (Chart III) All groups whose per capita cost came within 5 per cent of this amount were classified in the average cost class.

Below Average Cost

Five of the twelve groups had per capita costs below the average. These groups were Nos. 2, 3, 4, 9 and 11 whose per capita costs ranged from 27.3 cents in group 4 to 32.0 cents in group 9.

In the meals planned by the five managers whose costs fell below the average there were certain outstanding points. Little variety was shown in the breakfasts and neither eggs nor meat were used. One manager did not plan cereals, although only one failed to include milk or chocolate in the breakfast menus. Very little fresh fruit was used in this class. In many cases the main fruit was apple sauce which was used several times in one week. One manager often omitted fruit for breakfast unless in the form of jam or preserves. Another manager considered oranges and fresh grapefruit a luxury. This manager occasionally used canned grapefruit, which was cheaper at 15 cents for a Number 2 can than the fresh fruit at 8 cents apiece.

There was considerable difference in the manner in which the lunches of each manager in this class com-

pared with the standard plan. One manager who had either a hot main dish or a soup in practically every lunch sometimes used potato balls, macaroni salad or celery soup for the main part of the meal. Her frequent use of inexpensive foods is outstanding. Her dinner menus at times included two stews in one week and always a meatless dinner each week. It was the policy of this manager, to serve an inexpensive dinner on the night when the pledges living out of the house were present.

In this low cost class the use of cheaper cuts of meat for dinners, some meatless dinners, the use of only one vegetable, and frequent use of such inexpensive desserts as bread pudding reduced the cost.

In this class salads were used sometimes at lunch but not often for dinner. One manager omitted the salad every night for dinner but substituted celery four nights in one week. The omission of salad eliminates one valuable source of minerals and vitamins.

It is noteworthy that every one of these five managers was ordering a sufficient amount of milk to supply each person with a pint or very nearly a pint per day.

Because the average cost was low - only 33.7 cents per day per person served - it might be expected that

a group whose per capita cost fell below that amount was probably inadequately fed because of small servings or the lack of some of the more expensive but essential foods such as fresh fruit, fresh vegetables and sufficient milk and dairy products. In the case of three of the groups, Nos. 2, 9 and 11 this inadequacy according to the standard was noted. In the other two groups in this class, Groups 3 and 4, the low cost can be accounted for by the evident thriftiness, and care of the managers. The meals served seemed to be adequate in nutrition and calories but were characterized by plain food sometimes lacking in interest and variety.

It is a significant fact that the two managers of Groups 3 and 4 were Home Economics Seniors. The manager of Group 9 was a Junior in Home Economics, who had had only two weeks of experience at commissary management when this study was started. The preceding manager had been extravagant and had been supplying meals beyond the limits of the budget and she was cutting costs to make up for her predecessor's folly. The manager of Group 2 was a Sophomore in Vocational Education untrained in meal planning and saving food money for house payments. The other one was a house-mother with experience but concerned by her responsi-

bility in keeping foods costs down in order to meet other high expenditures. Sample menus of this group will be found on the following pages.

HOUSE GROUP NO. IV

Menus for the Week, January 29 to February 4, 1932.

Breakfast

Lunch

Dinner

FRIDAY

Stewed Peaches
Baking Powder Biscuits
Jam
Coffee or Milk

Baked Sweet Potatoes
with Marshmallows
Waldorf Salad
Milk

Fried Smelt
Scalloped Potatoes
Stewed Tomatoes
Fudge Apples with
Chipped Cream

SATURDAY

Apple Sauce
Toast and Jam
Coffee or Chocolate

Stock Vegetable Soup
Pear and Cheese Salad
Milk

Egg Cutlets
Rudabagas
Spanish String Beans
Celery
Mince Pie and Cheese

SUNDAY

Oranges
Cinnamon Rolls
Jelly
Coffee or Chocolate

(Tea)
Mint Jello Salad
Crackers
Chocolate Fudge Cake
Tea

Lamb Roast with Mint Jelly
Browned Potatoes
Gravy
Buttered Peas
Celery
Apricot Bavarian
Cookies
Coffee

HOUSE GROUP NO. IV (Con't.)

Breakfast

Lunch

Dinner

MONDAY

Apple Sauce
Toast and Jam
Coffee or Chocolate

Cream of Tomato Soup
Apricot and Cheese Salad
Milk

Pork Steak and Apple Sauce
Mashed Potatoes and Gravy
Pease and Carrots
Dill Pickles and Celery
Pineapple Upside Down
Cake and Coffee

TUESDAY

Canned Prunes
Graham Muffins

Creamed Corn with Bacon
Carrot, Raisin and Nut
Salad
Milk

Smothered Liver and Onions
Baked Sweet Potatoes
Harvard Beets
Celery
Fruit Cup and Cookies

WEDNESDAY

Apple Sauce
Toasted Buns
Jam

Baked Beans
Brown Bread
Lettuce Salad with
French Dressing
Milk

Roast Beef and Gravy
Browned Potatoes
String Beans
Celery
Angel Cake and Coffee

THURSDAY

Fruit
Toast and Jam
Coffee and Chocolate

Stock Vegetable Soup
Corn Bread and Honey
Canned Apricots
Milk

Tamale Loaf
Baked Squash
Beans
Banana Cream Pie

1
2
3
4

HOUSE GROUP NO. III

Menus for the Week, January 29 to February 4, 1932.

Breakfast

Lunch

Dinner

FRIDAY

Fruit
Cereals
Hot Biscuits
Coffee or Chocolate

Clam Chowder
Butterscotch Rolls
Tea or Milk

Baked Salmon
Mashed Potatoes
Carrot Salad
Pears and Wafers
Coffee

SATURDAY

Fruit
Cereals
Toast
Coffee or Chocolate

Puffy Omelet
Salad
Milk

Boiled Dinner
Custard Pie
Coffee

SUNDAY

Fruit
Cereals
Hot Biscuits
Coffee or Chocolate

Roast Beef
Roast Potatoes
Beets
Lettuce Salad
Ice Cream
Coffee

HOUSE GROUP NO. III (Con't.)

Breakfast

Lunch

Dinner

MONDAY

Fruit
Cereals
Toast
Coffee or Chocolate

Beef Hash
Fruit Salad
Milk

Baked Potatoes
Spinach
String Beans
Cabbage
Caramel Pudding

TUESDAY

Fruit
Cereals
Toast and Jam
Coffee or Chocolate

Celery Soup
Pear, Cabbage and Cheese
Salad
Tea or Milk

Sliced Hot Tongue
Scalloped Potatoes
Peas
Baked Apples

WEDNESDAY

Fruit
Cereals
Toast
Coffee or Chocolate

Baked Beans
Fruit Salad
Biscuits

Creamed Chicken in
Toasted Bread Baskets
Mashed Parsnips
Prune Whip

THURSDAY

Fruit
Cereals
Toast
Coffee or Chocolate

Chicken and Rice Soup
Salad
Muffins

Swiss Steak and Gravy
Mashed Potatoes
Peas
Sliced Lettuce Salad
Apple Pie and Cheese
Coffee

1
20
20
1

HOUSE GROUP NO. II

Menus for the Week, January 22 to January 28, 1932.

Breakfast

Lunch

Dinner

FRIDAY

Apple Sauce
Dry Breakfast Food
Toast
Coffee or Milk

Combination Vegetable Salad
Baking Powder Biscuits
Hot Chocolate

Vegetable Dinner
Baked Potatoes
Green Beans
Cooked Tomatoes
Bananas and Cream

SATURDAY

Apple Sauce
Dry Breakfast Food
Toast
Coffee or Milk

Baked Macaroni
Graham Crackers
Loganberries
Milk

Sausage and Gravy
Scalloped Potatoes
Buttered Carrots
Chess Pie

SUNDAY

Bananas and Cream
Toast and Preserves
Coffee or Milk

Apple and Celery Salad
Hot Butterhorns
Tea

Beef Roast and Gravy
Mashed Potatoes
Lettuce Salad with
French Dressing
Pickle Relish
Angel Food Cake
Coffee

HOUSE GROUP NO. II (Con't.)

Breakfast

Lunch

Dinner

MONDAY

Cream of Wheat
Toast and Preserves
Coffee or Milk

Cream of Tomato Soup
Crackers
Apricots

Creamed Tuna Fish on Toast
Parslied Potatoes
Pickled Beets
Individual Lemon Pies

TUESDAY

Sliced Oranges
Dry Breakfast Food
Toast
Coffee or Milk

Omelet with Bacon
Apple Sauce
Gingerbread
Milk

Meat Loaf and Catsup
Buttered Rice
Creamed Celery
Prune Whip

WEDNESDAY

Stewed Prunes
Oatmeal Mush
Toast
Coffee or Milk

Hash with Catsup
Apricots
Graham Crackers

Breaded Pork Chops
Mashed Potatoes and Gravy
Vegetable Jello Salad
Pumpkin Pie
Coffee

THURSDAY

Dry Breakfast Food
Toast & Preserves
Coffee or Milk

Clam Chowder
Strawberries
Crackers

Swiss Steak and Gravy
Mashed Potatoes
Scalloped Tomatoes
Tapioca Pudding
Coffee

HOUSE GROUP NO. XI

Menus for the Week, January 29 to February 4, 1932.

Breakfast

Lunch

Dinner

FRIDAY

Stewed Prunes
Cream of Wheat
Toast
Coffee or Chocolate

Vegetable Soup
Carrot Salad
Corn Bread and Jam
Sliced Oranges
Cookies

Boiled Salmon with Egg Sauce
Baked Potatoes
Green Beans and Spinach
Individual Lemon Pie
Coffee

SATURDAY

Sliced Oranges
Wheat Flakes
Hot Biscuits
Coffee or Chocolate

Potato Cakes
Lettuce Salad
Baked Apple
Milk

Lamb Stew
Buttered Peas
Banana and Nut Salad
Peaches
Cookies

SUNDAY

Stewed Apricots
Shredded Wheat
Biscuits
Coffee and Chocolate

Bowl Mixer Fruit
Cake with Chocolate Icing

Baked Ham
Sweet Potatoes
Stewed Corn
Celery and Olives
Ice Cream
Wafers

HOUSE GROUP NO. XI (Con't.)

Breakfast

Lunch

Dinner

MONDAY

Grapefruit
Cream of Wheat
Toast
Coffee or Chocolate

Creamed Celery Soup
Sweet Potatoes and
Apple Casserole
Steamed Bread

Beef Stew and Dumplings
Peas
Lettuce Salad with
1000 Island Dressing
Tapioca Pudding

TUESDAY

Prunes
Wheat Flakes
French Toast and Jelly
Coffee or Chocolate

Cheese Fondue
Toasted Sandwiches
Fruit
Chocolate or Milk

Scraps of Ham with Cream Sauce
Potatoes
Baked Squash
Stewed Tomatoes
Scalloped Apple with
Whipped Cream

WEDNESDAY

Baked Apples
Grapenuts
Coffee or Chocolate

Potato Chowder with
Crackers
Cottage Cheese Salad with
Pineapple and Prunes
Milk

Fried Oysters with Lemon
and Catsup
Pork Chops
Baked Potatoes
Green Beans
Cold Slaw
Maplenut Mold (Cr. Panel)

THURSDAY

Stewed Figs
Cream of Wheat
Toast
Coffee or Chocolate

Apple and Raisin Salad
Doughnuts
Tea or Milk

Ham and Eggs
Mashed Potatoes and Gravy
Turnips and Carrots
Orange Cup Cakes
Coffee

1
2
3
1

HOUSE GROUP NO. IX

Menus for the Week, January 25 to January 31, 1932.

Breakfast

Lunch

Dinner

MONDAY

Fruit
Cereals
Toast
Coffee

Bean Soup
Jello Salad
Crackers
Milk

Vegetable Stew
Maplenut Pudding
Coffee

TUESDAY

Fruit
Cereals
Toast
Coffee

Hash
Apple Sauce
Milk or Tea

Baked Potatoes
Carrots
Beets
Custard

WEDNESDAY

Fruit
Cereals
Toast
Coffee

Creamed Asparagus on Toast
Fruit
Tea

Pork Steak
Potatoes and Gravy
Waldorf Salad
Berry Pie
Coffee

THURSDAY

Fruit
Cereals
Toast
Coffee

French Toast
Apple Sauce
Syrup
Milk

Veal Birds
Potatoes and Gravy
Tomatoes
Ice Cream
Coffee

HOUSE GROUP NO. IX (Con't.)

Breakfast

Lunch

Dinner

FRIDAY

Fruit
Cereals
Toast
Coffee

Tuna Salad
Graham Muffins
Tea or Milk

Pigs in Blankets
Carrot and Raisin Salad
Bread Pudding

SATURDAY

Fruit
Cereals
Toast
Coffee

Scrambled Eggs
Raw Apples
Tea or Milk

Mock Chicken Pie
Pineapple and Cottage Cheese
Salad
Pumpkin Pie
Coffee

SUNDAY

Fruit
Cereals
Toast
Coffee

Waffles
Coffee

Roast Beef
Potatoes and Gravy
Buttered Peas
Prune Pudding
Coffee

Average Cost

In three of the twelve groups the per capita cost per day came within 5 per cent of the general average of 33.7 cents. In Group 6 the cost was 33.3 cents, in Group 7 it was 32.4 and in Group 1 it was 33.0 cents.

The menus planned by the managers in this average cost class came much closer to meeting the standard requirements for adequate and interesting meals than did the low cost class.

Fresh fruit was served on the breakfast menu four to six times in one week in two groups and one of these managers gave a choice of two fruits every morning. Apple sauce was served five times for breakfast in one week in Group 7. Cereals were served by all groups and jam or preserves, a hot bread and a milk beverage were always included in the breakfast menu.

An interesting variety was evident in the lunches. The main dish included meat or fish, cheese or eggs. Desserts were often omitted occurring only once a week at one house and twice a week in the other two groups. Instead of desserts these managers served a salad nearly every noon and often used sandwiches - which with a soup or hot dish, salad and milk, made a satisfactory lunch.

There was no uniformity in the dinners in this group. Meat was used seven times in the week by one manager and six times by the other two. Two managers planned a good variety of meat but the third manager used ham for three dinners in one week and pork in other forms in other meals. One week she served a salad with five dinners and another week she had no dinner salads. Fresh root vegetables and raw vegetables in salads were used frequently. These groups had fresh rolls for dinner once each week.

The manager of Group 6, was a Home Economics student with other practical training and experience in meal planning and purchasing. The manager of Group 7, was a student in Commerce and in Group 1, was a housemother.

Menus for one week planned by the managers of these Groups of Average Cost are shown on the following pages.

HOUSE GROUP NO. VII

Menus for the Week, January 29 to February 4, 1932.

Breakfast

Lunch

Dinner

FRIDAY

Apple Sauce
Toast
Eggs
Coffee

Macaroni and Cheese
Pineapple and Cheese Salad
Tea

Baked Salmon
Potatoes
Beans
Chocolate Pudding

SATURDAY

Apple Sauce
Eggs
Toast
Coffee or Chocolate
or Milk

Chili Beans
Cold Slaw
Fruit
Milk

Meat Loaf
Potatoes
Carrots
Apple Betty

SUNDAY

Oranges
Muffins and Jam
Milk, Cocoa or Coffee

Fruit Salad
Minced Ham Sandwiches
Cocoa

Tomato Cocktail
Creamed Chicken in Pattie
Shells
Scalloped Potatoes
Peas
Asparagus-Lettuce Salad
Pineapple Ice Cream
Pattie
Coffee

31
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HOUSE GROUP NO. VII (Con't.)

Breakfast

Lunch

Dinner

MONDAY

Apple Sauce
Hot Cakes and Jam
Cereals
Coffee or Milk

Shrimp Wiggle
Peaches and Coconut

Roast Pork with Apple Sauce
Potatoes
Rudabagas
Tapioca Pudding

TUESDAY

Apple Sauce
Cereal and Jam
Coffee or Milk

Tamale Pie
Stuffed Prunes

Leg of Lamb
Mashed Potatoes
Squash
Lettuce Salad with
1000 Island Dressing
Birthday Cake and Coffee

WEDNESDAY

Oranges
Eggs
Cereal and Jam
Coffee or Milk

Cheese Souffle
Fruit Salad

Pork Sausages
Fried Apples
Potatoes and Gravy
Slaw
Bread Pudding

THURSDAY

Apple Sauce
French Toast and Jam
Coffee or Milk

Tomato Soup
Baked Apples
Crackers and Jam

Breaded Veal
Creamed Potatoes
Buttered Beets
Lettuce Salad with
French Dressing
Merangue Pears and Coffee

1
53
1

HOUSE GROUP NO. VI

Menus for the Week, January 29 to February 4, 1932.

Breakfast

Lunch

Dinner

FRIDAY

Oranges
Cereals
Toast and Jam
Coffee, Milk or Chocolate

Celery Soup
Cottage Cheese
Pear Salad

Smelt
Potatoes
Tomatoes
Pineapple, Nuts and
Marchino with Whipped
Cream

SATURDAY

Baked Apples
Biscuits and Jam
Cereals
Coffee, Milk or
Chocolate

Macaroni and Cheese
Plumes
Rolls
Chocolate

Ham
Sweet Potatoes
Peas
Pineapple Salad
Cake and Coffee

SUNDAY

Prunes and Oranges
French Toast
Cereals
Syrup, Jam and Jelly
Coffee, Milk or
Chocolate

Fruit Salad
Sandwiches (Meat, Ham,
Olive and Nut.)
Tea

Pork Chops
Potatoes
Beets
Apple Sauce
Squash Pie
Coffee

1
2
3
4

HOUSE GROUP NO. VI (Con't.)

Breakfast

Lunch

Dinner

MONDAY

Apple Sauce and Raspberries
Prunes
Toast with Jam and Jelly
Cereals
Coffee, Milk or Chocolate

Potato Soup
Cheese Sandwiches
Banana, Pineapple and
Orange Salad
Milk

Ham Loaf
Potatoes
Beans
Lime Jello Salad
Fruit Jello-Whipped Cream

TUESDAY

Apples and Peaches
Toast with Jam and Jelly
Cereals
Coffee, Milk or
Chocolate

Creamed Tuna
Carrot Salad
Rolls and Jam
Milk

Succatosh
Veal Stew Meat
Potatoes
Lettuce Salad
Chocolate Pudding

WEDNESDAY

Bananas
Pancakes
Syrup, Jam and Jelly, Honey
Cereals
Coffee, Milk or Chocolate

Spanish Rice
Raspberries
Milk

Squash
Potatoes
Tomatoes
Pear Salad
Cheese on Crackers

THURSDAY

Peaches and Oranges
Toast with Jam and Jelly
Cereals
Coffee, Milk or
Chocolate

Welch Rarebit
Lettuce Salad
Milk

Ham with Noodles
Parsnips
Potatoes
Cut Fruit
Cabbage Salad

HOUSE GROUP NO. I

Menus for the Week, January 29 to February 4, 1932.

Breakfast

Lunch

Dinner

THURSDAY

Oranges
Dry Cereal
Toast
Marmalade
Coffee or Milk

Ground Ham
Egg Sandwiches
Potato Chips
Waldorf Salad
French Coffee

Meat Loaf
Hashed Brown Potatoes
String Beans
Lettuce Salad
Stuffed Celery
Carrot Pudding

FRIDAY

Bananas
Cooked Cereal
Dry Cereal
Toast and Marmalade
Coffee or Milk

Sausage
Stuffed Baked Apples
Gingerbread
Milk

Pork Chops
Mashed Potatoes
Scalloped Cabbage
Beet Salad
Pineapple Tapioca

SATURDAY

Apple Sauce
Dry Cereal
Toast and Marmalade
Coffee or Milk

Chili Con Carne
Cabbage Salad
Milk

Vegetable Stew
Mashed Potatoes
Pickles
Bananas and Cream

HOUSE GROUP NO. I (Con't.)

Breakfast

Lunch

Dinner

SUNDAY

Oranges
Dry Cereals
Butterhorns and Marmalade
Coffee or Milk

Sandwiches
Salad
Cakes
Milk

Veal Birds
Mashed Potatoes
Peas
Bridge Salad
Ice Cream and Coffee

MONDAY

Canned Prunes
Dry Cereal
Toast and Marmalade
Coffee or Milk

Vegetable Soup
Raisin Muffins
Milk

Roast Beef
Mashed Potatoes
Scalloped Corn with Tomatoes
Carrot and Apple Salad
Date Custard

TUESDAY

Oranges
Cooked Cereal
Dry Cereal
Toast and Marmalade
Coffee, or Milk

Bacon and Eggs
Sandwiches
Mixed Fruit Salad
Milk

Baked Squash
Spinach
Parsnip Patties
Salmon Salad
Chocolate Pie

WEDNESDAY

Apple Sauce
Dry Cereal
Toast and Marmalade
Coffee or Milk

Esau's Pottage
Caramel Rolls
Milk

Swiss Steak
Mashed Potatoes
Carrots
Lettuce Salad
Glorified Rice

1
2
3
4

Above Average Cost

Four of the twelve groups, Nos. 5, 8, 10 and 12, in the class above the average costs, with averages ranging from 36.3 cents in Group 8 to 40.5 cents in Group 5 per person per day. The high cost was the result of: (1) the use of high priced foods, (2) elaborate menus, (3) large quantities served, and (4) numerous dinner guests. The meals planned by the managers of groups 5 and 12 corresponded very favorably to the standards for good student feeding. They were well-balanced, had good variety, contrasts in flavor and an abundance of salads and fresh foods. However, the meals planned by the managers of Groups 8 and 10 in this group did not at all justify the high expenditure for food. (Chart I.) One of these managers planned poorly at times - serving such lunches as two fish dishes in the same meal or other undesirable combinations of foods. She used fish frequently, especially canned fish which is expensive. The amount spent for meat and fish was more than 5 per cent above the average for all of the houses. The amount spent for nuts, sweets and eggs was high, while the amount of money spent for dairy products, fresh fruits and vegetables used were below the average. These facts indicate that, in spite of high expenditure, food may be inadequate and poorly balanced for good nutrition,

and that unless meals are carefully planned they will be monotonous and colorless. Kramer and Grundmeir (4) stated that: "Large amounts of money spent for certain foods may not mean that the supply was adequate but that expensive foods or fancy goods have been used extravagantly."

The manager of Group No. 8 whose costs were 2.6 per cent above the average exceeded the average expenditure for meats even though she had a meatless dinner every week. A great deal of ham, veal and lamb was purchased all of which cost 23 to 25 cents per pound. Her luncheon main dish usually contained meat, fish or eggs.

Milk or chocolate was included nearly every day for breakfast and lunch in these four groups. In most of the groups in the study only whole milk was purchased. Two of the managers in the above average cost class quite regularly bought cream in addition to milk.

The manager of Group 5 was a student in the School of Commerce, with practical experience in management. Group 12 was managed by a Senior in Home Economics; Group 8 by a housemother and Group 10 by a Sophomore in Home Economics.

Copies of menus for one week planned by the managers in this class follow.

HOUSE GROUP NO. V

Menus for the Week, January 29 to February 4, 1932.

Breakfast

Lunch

Dinner

FRIDAY

Bananas
Hot Cereal
Toast and Jam
Coffee or Milk

Parsnips
Pear Salad
Milk

Tuna Loaf
Pineapple and Cottage Cheese
Salad
Cookies
Milk

SATURDAY

Apricots
Eggs
Toast and Jam
Coffee or Milk

Beef Stew
Fruit Cup
Milk

Sausages and Gravy
Baked Squash
String Beans
Lettuce Salad
Lemon Custard
Coffee

SUNDAY

Grapefruit
Hot Cereal
Snails and Jam
Coffee or Milk

Tuna Salad
Sandwiches
Cookies
Milk or Tea

Roast Lamb and Gravy
Browned Potatoes
Peas
Carrot-Pineapple Salad
Rolls
Ice Cream
Cookies and Coffee

HOUSE GROUP NO. V (Con't.)

Breakfast

Lunch

Dinner

MONDAY

Cherries
Eggs
Toast and Jam
Coffee or Milk

Chili Con Carne
Sliced Orange Salad
Hot Chocolate

Meat Pie
Beets
Pineapple and Cottage
Cheese Salad
Apricot Whip

TUESDAY

Oranges
Hot Cereal
Toast and Jam
Coffee or Milk

Cream of Tomato Soup
Sliced Banana Salad

Breaded Pork Steak
Browned Potatoes and Gravy
Spinach
Carrot Salad
Jello

WEDNESDAY

Loganberries
Hot Cereal
Toast and Jam
Coffee or Milk

Pineapple-Cottage Cheese
Salad
Hot Gingerbread
Hot Chocolate

Roast Veal
Mashed Potatoes and Gravy
String Beans
Celery
Peach Salad
Angel Food Cake

THURSDAY

Oranges
Hot Cereal
Toast and Jam
Coffee or Milk

Clam Chowder
Sandwiches
Apricots and Pineapple

Sausage and Gravy
Baked Squash
Cauliflower
Asparagus Salad
Peppermint Whip

HOUSE GROUP NO. XII

Menus for the Week, February 4 to February 11, 1932.

Breakfast

Lunch

Dinner

FRIDAY

Orange Halves
Peaches
Whole Wheat Biscuits
Quince Honey
Coffee or Milk

Vegetable Noodles
Open Face Sandwiches
Cabbage and Pickle Salad
Milk

Meat Stew
Mashed Potatoes
Carrots
Pickled Beets
Celery
Floating Island

SATURDAY

Tomato Juice
Raspberries
Cereals
Toast and Jam
Coffee or Milk

Chili
Apple Salad
Tea

Meat Loaf
Potato Cakes
Parsnips
Pear Salad
French Cocoanut Cake

SUNDAY

Orange Halves
Raspberries
Nuggets
Cereal
Coffee or Milk

Shrimp Salad
Egg Sandwiches
Fruit Cake
Tea

Pork Chops
Mashed Potatoes and Gravy
Cinnamon Apples
String Beans
Lettuce Salad with
1000 Island Dressing
Rolls
Ice Cream with
Chocolate Sauce

HOUSE GROUP NO. XII (Con't.)

Breakfast

Lunch

Dinner

MONDAY

Apple Sauce
Tomato Juice
Cereal
Biscuits and Honey
Coffee or Milk

Hash
Pineapple and Cottage
Cheese Salad
Milk

Pigs in Blankets
Mashed Potatoes
Creamed Cabbage
Lettuce Salad
Butterscotch Pudding

TUESDAY

Peaches
Apple Sauce
Sweet Buns (T)
Cereal
Milk or Coffee

German Macaroni
Sausage Balls
Peach Salad
Milk

Hamburger Patties
Mashed Potatoes and Gravy
Baked Squash
Banana Salad
Jello with Cream

WEDNESDAY

Pears
Tomato Juice
Hot Cross Buns
Cereal
Milk or Coffee

Hamburgers
Potato Chips
Celery
Chocolate

Beef Roast
Mashed Potatoes and Gravy
Stewed Tomatoes
Lettuce and Egg Salad
Boston Cream Pie

THURSDAY

Peaches
Strawberries
Cereals
W.W. Biscuits and Jelly
Milk or Coffee

Fried Eggs
Scalloped Potatoes
Apple and Celery Salad
Tea

Roast Pork and Apple Sauce
Browned Potatoes and Gravy
Peas
Lettuce with 1000 Island
Dressing
Rolls and Butter
Chocolate Pie

HOUSE GROUP NO. VIII

Menus for the Week, February 5 to February 12, 1932.

Breakfast

Lunch

Dinner

FRIDAY

Eggs
Toast
Coffee or Milk

Corn Chowder
Cut Fruit
Muffins
Tea

Tuna
Creamed Peas
Stewed Tomatoes
Spinach
Hot Biscuits and Honey
Coffee

SATURDAY

Bananas
Cereals
Toast
Coffee or Milk

Tuna and Peas (reheated)
Egg Salad
Raisin Bread
Tea or Milk

Beef Steak
Potatoes and Gravy
Carrots
Custard

SUNDAY

Grapefruit
Maplebars
Coffee or Milk

Ground Ham and Sardine
Sandwiches
Ice Cream
Frosted Wafers

Roast Lamb
Potatoes and Gravy
Peas
Salad
Ice Cream

HOUSE GROUP NO. VIII (Con't.)

Breakfast

Lunch

Dinner

MONDAY

Eggs
Cereals
Toast
Coffee or Milk

Mutton Broth
Gingerbread
Cherries
Milk

Beef Loaf and Gravy
Boiled Potatoes
Carrots
Sliced Bananas with Cream

TUESDAY

Prunes
Cereal
Toast
Coffee

Hash
Pears
Milk or Tea

Cold Mutton
Creamed Potatoes with
Cheese in Casserole
Spinach
Apple Upside Down Cake
Coffee

WEDNESDAY

Apple Sauce
Cereal
Toast and Bacon
Coffee or Milk

Prunes Stuffed with
Cottage Cheese
Corn Muffins and Jam
Tea or Milk

Macaroni and Cheese and
Tomatoes
Cabbage and Pineapple Salad
Fruit Juice Jello

THURSDAY

Cereal
Toast and Bacon
Coffee or Milk

Shrimp Creamed with Peas
Cherry, Pear and Pineapple
Salad
Rye Bread
Tea or Milk

Veal Loaf
Squash
String Beans
Celery
Pineapple Whip

HOUSE GROUP NO. X

Menus for the Week, February 1 to February 7, 1932.

Breakfast

Lunch

Dinner

MONDAY

Fruit
Cereals

Coffee Cake
Pear Salad with Cheese
Chocolate Pudding
Milk

Swiss Steak
French Fried Potatoes
Carrots and Peas
Lemon Pie

TUESDAY

Fruit
Cereals

Chipped Beef on Toast
Lettuce Salad
Fruit
Milk

Spanish Rice
String Beans
Fruit Salad
Jelly Roll

WEDNESDAY

Fruit
Eggs
Cereals

Potato Soup
Lettuce Sandwiches
Fruit
Milk

Breaded Veal
Baked Potatoes
Squash Salad
Date Pudding

HOUSE GROUP NO. X (Con't.)

Breakfast

Lunch

Dinner

THURSDAY

Fruit
Cereals

Cheese Souffle
Cabbage Salad
Oranges
Milk

Meat Loaf
Creamed Potatoes
Boiled Onions
Asparagus Salad
Fruit Jello and Cookies

FRIDAY

Fruit
Cereals

Vegetable Soup
Nut Bread
Bananas
Milk

Fish
Baked Potatoes
Corn
Apple Salad
Gingerbread

SATURDAY

Fruit
Cereals

Cream of Celery Soup
Cottage Cheese
Fruit

Sausages
Potatoes
Lima Beans
Cabbage Salad
Tapioca Pudding

SUNDAY

Fruit
Eggs
Cereals

Veal Birds
Baked Potatoes
Creamed Celery
Tomato Jello Salad
Ice Cream
Coffee

Menus Planned by Food Director in Second Period

The menus planned for this period were based on the plan generally accepted by dietitians as desirable for women students. It was the aim of the food director to supply a diet nutritionally adequate, well-balanced, and as varied as possible in kinds of food used, flavor, texture and aesthetic appeal. However, market supplies of fresh food were limited in the late winter months. Fresh vegetables obtainable at reasonable prices were celery, lettuce, and cabbage and the winter root vegetables. It was possible to secure fresh spinach during the last two weeks of the study. The supply of cauliflower and brussels sprouts were uncertain, rather poor in quality and high in price. Fresh tomatoes were not handled at this season by the Cooperative Store manager. Cucumbers and radishes were secured in March at the request of the food director, in order to add a touch of variety and color to a Sunday dinner salad. The supply of fresh fruit was limited to bananas, apples, oranges and grapefruit. Toward the close of the study it was possible to secure rhubarb.

A choice of several foods was given occasionally to allow for preferences in the different groups. When certain foods were not specified for a combination salad,

soup or fruit cup, opportunity was given to allow for the use of favorite combinations and bits of left-overs. Menus used for two weeks are given on pages 49 to 52.

When the groups are classified into the three classes with costs based on their relationship to the average per capita cost in the second period, the arrangement is somewhat different from that of the first period. The average per capita cost per person served in the second period was 35.4 cents.

The following summary is given for the division of the groups into the three classes.

	<u>First Period</u>	<u>Second Period</u>
	Ave. Per Capita Cost 33.7 Cents	Ave. Per Capita Cost 35.4 Cents
Below Average Cost	Groups 2,3,4,9,11	Groups 2,4
Average Cost	Groups 1,6,7	Groups 3,5,6,7,8,12
Above Average Cost	Groups 5,8,10,12	Groups 1,9,11,10

There are six groups whose costs came within 5 per cent of that average. They were Nos. 3, 5, 6, 7, 8 and 12. Of these groups Nos. 6 and 7 were in the average cost group in Period I, No. 3 was in the group below average and the others, Nos. 5, 8 and 12 were in the group above average. In the group below average groups 2 and 4 with per capita costs of 29.7 and 30.6

MENUS FOR WEEK OF FEBRUARY 19 - 25

Breakfast

Lunch

Dinner

FRIDAY

Loganberries or
Stewed Apricots
Choice of Cereals
Toast and Preserves
Coffee, Cocoa or Milk

Cheese and Rice Souffle
Grapefruit-Orange Salad
French Dressing
Tea or Milk

Lamb Chops or Baked Salmon
Scalloped Potatoes
Buttered Carrots
Mixed Pickles
Rolls and Jelly
Marshmallow Fruit Whip

SATURDAY

Oranges
Rolled Oats-
Hot Biscuits and Jam
Coffee, Cocoa or Milk

Creamed Asparagus and Eggs
on Toast
Baked Stuffed Apples
Cocoa or Milk

Pot Roast of Beef and Gravy
Browned Potatoes
Mashed Rutabagas
Head Lettuce Salad
Cottage Pudding with
Chocolate Sauce

SUNDAY

Bananas and Cream
Puffed Cereal
Baked Eggs
Cinnamon Rolls
Coffee, Cocoa or Milk

Toasted Sandwiches
Waldorf Salad
Rolled Cookies
Tea or Chocolate

Creamed Chicken on Biscuit
or Roast Veal
Glazed Sweet Potatoes
Buttered Peas
Asparagus Salad
Rolls
Ice Cream and Coffee.

MENUS FOR WEEK OF FEBRUARY 19 - 25 (Con't.)

Breakfast

Lunch

Dinner

MONDAY

Green Gage Plums
 Cream of Wheat with Dates
 Toast
 Coffee, Cocoa or Milk

Chicken Noodle Soup
 Crackers
 Pear and Cheese Salad
 Graham Muffins
 Milk

Meat Loaf
 Brown Gravy
 Mashed Potatoes
 Buttered Parsnips
 Perfection Salad
 Cherry Pie

TUESDAY

Stewed Prunes or Peaches
 Choice of Cereals
 Coffee Cake and Jelly
 Coffee, Cocoa or Milk

Boston Baked and Lima Beans
 Catsup
 Brown Bread
 Fruit Cup*
 Tea or Milk

Baked Peanut Squash with Bacon
 Scalloped Cabbage
 Head Lettuce (1000 Island)
 Dutch Apple Cake
 Lemon Sauce

WEDNESDAY

Oranges
 Choice of Cereals
 Scrambled Eggs
 Toast and Preserves
 Coffee, Cocoa or Milk

Vegetable Soup*
 Toasted Crackers
 Cottage Cheese and
 Lettuce Salad
 Peaches and Milk

Pork Chops and Gravy
 Riced Potatoes
 Fresh Spinach
 Pickle Relish and Rolls
 Ice Cream

THURSDAY

Apricots or Apple Sauce
 Wheat Flakes
 Toast and Jam
 Coffee, Cocoa or Milk

Corn Pudding
 Whole Wheat Rolls
 Jelly
 Fresh Baked Rhubarb
 Sugar Cookies and Tea

Liver and Bacon or Frankfurters
 Baked Potatoes
 Buttered Beets
 Cabbage and Celery Salad
 Chocolate Cake and Coffee

* - Use any left-overs on hand.

Note: Bread and butter are to be included in every lunch and dinner where special bread is not stated.

MENUS FOR WEEK OF MARCH 5 - 11

Breakfast

Lunch

Dinner

FRIDAY

Sliced Peaches
Cooked Wheat Hearts
Pep
Toast and Jelly
Coffee or Milk

Apple Fritters and Syrup
Hunter's Salad
(Peas, Cheese, Pickles)
Milk

Chicken Hollandaise
Mashed Potatoes
Buttered Green Beans
Combination Fruit Salad*
Fruit Dressing
Date Pudding with
Whipped Cream

SATURDAY

Banana
Shredded Wheat
Cinnamon or Plain Toast
Coffee, Cocoa or Milk

Boston Baked Beans
Catsup
Celery Sticks
Fruit Macedoine

Meat Croquettes, Liver or
Hamburg Balls
Cream Corn
Grapefruit and Date Salad
Caramel Nut Blanc Mange

SUNDAY

$\frac{1}{2}$ Grapefruit
Scrambled Eggs
Hot Cross Buns
Coffee or Milk

Salmon Salad
Relish Sandwiches
Chocolate or Tea

Baked Ham Steak, Apple Wedges
Scalloped Potatoes
Cucumber and Radish Salad
Parker House Rolls
Strawberry Sundae
Coffee

MENUS FOR WEEK OF MARCH 5 - 11 (Con't.)

<u>Breakfast</u>	<u>Lunch</u>	<u>Dinner</u>
<u>MONDAY</u>		
Oranges Cornmeal Mush or Puffed Cereal Toast and Preserves Coffee or Milk	Creamed Chipped Beef Shredded Lettuce with French Dressing Royal Ann Cherries Spice Cup Cakes and Milk	Veal Patties with Bacon Mashed Potatoes and Gravy Buttered Cabbage with Parsley Golden Glow Salad Chocolate Cream Roll
<u>TUESDAY</u>		
Apple Sauce Cornflakes Hot Biscuits Honey or Syrup Coffee or Milk	Noodle Soup Toast Sticks Asparagus and Egg Salad Milk	Swiss Steak with Tomato Sauce Mashed Potatoes Harvard Beets Celery and Olives Rhubarb Pie or Shortcake
<u>WEDNESDAY</u>		
Stewed Apricots or Peaches Rolled Oats Toast and Preserves Coffee or Milk	Creamed Carrots and Celery Raisin Bread Loganberries Milk	Pot Roast of Beef Baked Potatoes and Gravy Fresh Spinach Pear and Nut Salad Raspberry Jello
<u>THURSDAY</u>		
Sliced Oranges Bacon French Toast and Syrup Coffee and Milk	Pineapple and Cottage Cheese Salad Graham Muffins Tapioca Pudding Milk	Pork Chops and Brown Gravy Candied Sweet Potatoes Breaded Tomatoes Waldorf Salad Apricot Marshmallow Fluff

* - Use any left-overs on hand.

Note : Bread and Butter are to be included in every lunch and dinner where special bread is not stated.

respectively, again, are classified as they were in the first period.

In the group above average, Group 10 is the only one who is so classified in both periods. In the first period Group No. 1 was in the average group and Groups Nos. 9 and 11 were in the low class.

Food Purchased by Individual Managers in First Period

During the two periods of the study food prices at the Cooperative Managers' Association were practically stationary and were uniform for all purchasers. Therefore, the main factors which affected food costs were: choice of food, quantity purchased, quality or grade and individual differences in methods of purchasing.

Choice of Food. The choice of food was the most important factor and was largely responsible for the variation in costs in the different groups, as shown in the summary on page 48. The relationship between selection and cost of food in this study is brought out in the discussion of menus used, the classification being based on the division of the twelve groups in relation to per capita cost of food.

Quantity Purchased. Important factors determining the quantity of supplies purchased and kept on hand

are: the amount of storage space, its location, temperature and ventilation. For the storage of canned goods only two of the twelve houses had specially ventilated rooms in the basement. At four houses an unventilated basement corner was partitioned off for storage. Four other houses had large storage cupboards in the basement, some of which were in the same room with the furnace or laundry tubs. At the two remaining houses there was no basement storage, but canned goods, as well as all other supplies, were kept upstairs usually on shelves in the kitchen or serving room.

The climatic conditions in Corvallis are such that refrigeration is not necessary during the nine months of the school year. However three of the twelve houses have ice boxes, none of which are used in the winter except for storage. None of the houses have electric refrigeration. Practically all of the kitchens have built-in coolers, although most of them are no larger than family size and much too small for the needs of a large group. One of the newer houses has an excellent pantry cooled by circulation of air and quite adequate for perishable foods.

The majority of managers kept at least a part of the supplies locked against the invasion of hungry members, but in many cases the lock protected only the

cooler and cases of fresh fruits, there being free access to the store of canned goods. Some managers made available a supply of crackers, cereals, milk and left-over foods for bed-time lunches.

The wholesale purchase of supplies by the manager of the Cooperative Association gave to each group the advantage of quantity buying. However, supplies could be ordered from the storeroom as needed in small amounts at prices only slightly higher than those charged for large amounts. In the twelve groups eight managers bought oranges in the half case and four groups usually bought them by the dozen. The purchases by the dozen was not confined to the small groups. One large group with 30 members purchased both oranges and eggs by the dozen because there was no storage room for the crates except in the basement which was warm and could not be locked. Apples were purchased by the box in every group, and two or three managers saved a little by ordering three boxes at one time.

Each manager had a standing order for milk to be delivered daily and for butter delivered twice a week. An interesting discovery was made concerning the milk delivery and charges. The contract was let for the year at the price of $25\frac{1}{2}$ cents per gallon. The dairy charged at that rate if an even number of gallons were

purchased. The charge was 26 cents for a single gallon. Half gallons were delivered in two quart bottles, for which a straight charge of 8 cents per quart was made. Because of this practice, a group receiving one and a half gallons of milk per day was paying 26 cents for the gallon and 16 cents for the two quarts, totaling 42 cents. This was 3.7 cents more per day than should have been paid at the contract price of $25\frac{1}{2}$ cents per gallon, and only 9 cents less than would have been paid for two gallons of milk.

Meat was purchased daily by weight or number of servings. Managers of large groups usually bought whole hams and legs of veal and lamb. Due to the demand for roasts or Swiss steaks the manager of the Association purchased extra lots of loins, rounds or legs, and chucks or shoulders of beef, and of pork, lamb and veal. Other kinds of meat often used were hamburger and sausage, stews, chops of all kinds, ham, and occasionally fish, liver and frankfurters. Chicken was considered a luxury by some managers and was rarely used.

Seven of the twelve managers bought eggs in half-case lots of fifteen dozen - thus saving one cent per dozen. The other seven managers bought in lots ranging from two to five dozen. One large group who used a great many eggs ordered them in dozen lots three or four times

a week. In this case the choice between storage on a small open porch or in a warm basement room made the plan of buying in small lots seem wise.

Root or underground vegetables were usually purchased in five or ten pound lots with the exception of potatoes, which were purchased in 100-pound sacks. Carrots, because of their many uses, were usually kept on hand. One manager bought parsnips, rutabagas and squash by number to avoid having any left over. Lettuce was purchased daily by three managers of large groups. One manager ordered six heads every day, much of which was wasted because the lettuce used for salad foundation was not eaten. There was also considerable waste and loss of crispness of lettuce caused by careless storage in many of the houses. Some of the managers who were economizing on food used little lettuce and ordered only once a week.

Quality or Grade. The quality of foods ordered from the Cooperative Managers' Association had a greater effect on costs than did the quantity ordered. One desirable grade of fresh foods was purchased by the manager of the association but canned goods were carried in stock in fancy, choice and standard grades. The responsibility of selection of goods high, low or medium in quality and price rested with the individual managers.

The use of canned goods is quite a large factor during the winter months when there is a limited supply of fresh fruits and vegetables on the market. Four of the twelve managers, Groups 4, 8, 9 and 11, reported that they usually specified the grade desired when ordering. Manager of Group 8 asked for a medium grade and Group 9 often asked for the cheapest grade. Managers 4 and 11 specified certain grades for certain purposes. The managers of eight groups reported that no specifications were given except in a few cases for fruit for pies or for some special style of pack. If no grade specifications were given, the manager of the association filled the order with the grade usually purchased or with the best grade to make sure that the quality was satisfactory. Less expensive grades might have been chosen for some purposes if the manager had been more experienced in purchasing. Three of the managers who specified certain grades for different purposes were in the class below average per capita cost. This fact helps to show that the choice of quality is one factor in determining food cost.

Individual Differences in Methods of Purchasing.

One half of the managers purchased most of their canned goods in size No. 2 or $2\frac{1}{2}$, the other half purchased in size No. 10. The number to be served in the various

groups regulated the size of the can selected. No. 10 cans of small fruits and vegetables will make 24 to 26 servings of one half cup each. For small groups of ten or fifteen members or large groups of 30 members the No. 10 size was not practical unless it was desired to have some left over for other use. If it was practical to purchase No. 10 size there was economy in doing so. There was a difference of .6 cent less per serving of string beans when purchased in No. 10 cans than an equal amount in No. 2 cans of the same brand and grade. Solid pack tomatoes in No. 10 cans cost .2 cent less per serving than when purchased in No. 2½ cans.

The basis for purchasing by case or can lots seemed to depend very largely on one of two factors: the financial condition of the group and the amount of storage space. Two of the twelve managers purchased only the number of cans needed from day to day; only one group purchased canned goods entirely in case lots. The others bought fruits and vegetables most commonly used by the case and those infrequently used in single cans. There was a difference of five to fifteen cents in the price of a case of canned goods and the same number of separate cans.

The practices of buying many of the miscellaneous foods were largely determined by the assistance given

at the cooperative store. A number of foods were purchased in bulk and put up in five-pound packages at the store, giving the houses the advantage of bulk prices. Rice, rolled oats, dried fruit, coffee, cocoa, gelatine and brown sugar were handled in this way. Vinegar and salad oil were purchased by the barrel by the manager of the Association, then sold by the gallon to the various groups. Salad dressing could be purchased at prices little more per gallon than had to be paid for the oil. Some of the managers found that the ready-made salad dressing was more satisfactory and no more expensive than that made at the house. The same decision was made concerning bread and rolls due to the fact that very few, if any, of the kitchens were equipped with electric mixing machines. Olives and pickles were purchased in bulk, in pint or quart lots as needed. The amount of these relishes used by some of the groups would warrant their purchase in gallons - but there probably would have been a greater waste and loss because of excessive use than would have been saved by purchase in larger amounts.

Food Purchased under Supervision of Food Director in Second Period. During the second period when the meals were planned by the food director, the actual ordering of supplies was still done from each house by

the individual managers. As has been mentioned, this was the only practical method by which to handle this part of the problem because of the difference in numbers in each group, because it was impossible for the director to visit each kitchen every day to check supplies on hand and supplies needed. Printed sheets with directions and amounts of supplies needed for the week were distributed with the menus. Quantities given were sufficient for 20 persons, which was the average number served in all of the groups. Any specifications on size, brand or style of pack of canned goods, cuts of meat, etc., were given on these sheets. It was recommended that all canned goods frequently used be purchased in case lots. The importance and convenience of quantity buying was emphasized.

Many of the faulty practices of individual managers were pointed out to them and corrected in visits to the houses. In the houses with few members where the storage space was limited the expenditure of a large amount of money in quantities of case goods, seemed unnecessary and impractical.

The milk situation in relation to the extra charge for half gallon orders was adjusted in the second period. The managers who were getting one and a half gallons daily ordered instead one gallon one day and two gallons

the next, so that only gallon containers were used and the use of bottles and the extra charge were eliminated. This resulted in an average saving of one dollar per month for groups using the half gallons.

Wholesale purchasing was done by the manager of the cooperative association for all of the groups therefore, it is difficult to give definite figures on exact amounts saved as a result of ordering these goods in large quantities from the storeroom, in comparing one group with another or in comparing one period with the other. Groups 5 and 12 - whose numbers were large and whose per capita cost were above the average, did more quantity buying than other groups. Group 9 whose manager did little quantity buying, was in the class of below average cost. It was quite evident from the menus planned for these groups that the choice of food rather than the method of buying was responsible for the difference in food costs. On the other hand, the fact that Groups 8 and 10 in the above average class and Group 4 in the below average class, whose menus do not correspond to their cost, indicate that buying methods made a difference. Manager of Group 4 bought a great many things in quantity and managers of Groups 8 and 10 did not. The smallest amount of stored food in any of the groups was in the storeroom of Group 10.

Comparison of Prices in the First and Second Periods

All of the purchasing for the eight weeks of the study was done at the cooperative store. The prices of most foods remained practically uniform throughout the two periods. There were a few items on which changes were made. Butter dropped two cents per pound on January 22 at the end of the first week of the first period and eggs dropped one cent per dozen at the end of the second week of the first period. Because of the adjustment of milk charges, more milk was furnished in proportion to the amount spent in the second period than in the first.

The price of fresh grapefruit varied in the two periods. During the first period only Florida russets, size 64, at 8 cents each were carried in stock at the cooperative store. Because of the high rate of 4 cents per serving very few of the managers were using fresh grapefruit. On discussing the situation with the manager of the store in the second period, it was found that California Imperial Valley grapefruit, size 80's, could be secured for 4 cents each. These were carried in stock at the store from that time on and proved more satisfactory in size and price than the larger more expensive size. At this price the fresh grapefruit was less expensive per serving than the canned which was being used

by most of the groups.

Comparative Study of Food Costs

Total Food Costs

A detailed account of the money used by each group for each kind of food in the first and second periods is shown on Chart I. These amounts have been reconciled with the inventories at the beginning and end of each period. The number of meals served and the per capita costs per meal are shown on Charts II and III. A summary of Charts I, II and III is given on the following page. The average amount spent for food for four weeks was \$190.14 in the first period and \$197.72 in the second period. An average of 20.7 persons were served in the first period and 19.6 in the second period. (Chart II) In both periods five of the twelve groups, Nos. 1, 5, 7, 11 and 12, exceeded this average cost but also exceeded the average number of persons served per meal in both periods.

A wide variation is shown in the amount spent for food in the different groups. In the first period the highest cost was \$348.96 in Group 12, and the lowest was \$123.86 in Group 4. In the second period the highest was \$320.12, also in Group 12, and the lowest, \$139.50

A SUMMARY OF CHARTS I, II and III

Group No.	First Period			Second Period		
	Cost of Food	Ave. No. persons served per meal	Per Capita Cost per day	Cost of Food	Ave. No. persons served per meal	Per Capita Cost per day
1	256.48	27.6	33.0	289.45	24.0	42.9
2	180.19	19.7	31.8	171.61	20.5	29.7
3	142.90	16.3	31.2	139.50	14.5	34.2
4	123.86	16.2	27.3	147.55	17.1	30.6
5	251.83	22.1	40.5	209.75	21.1	35.1
6	187.96	20.2	33.3	210.21	19.2	35.7
7	200.32	21.9	32.4	197.43	20.7	33.9
8	175.71	17.1	36.3	158.87	15.9	35.4
9	131.53	14.5	32.0	154.69	14.6	37.5
10	164.13	14.7	39.6	151.69	14.4	37.5
11	214.64	24.8	30.6	221.86	21.0	37.5
12	348.96	33.9	36.6	320.12	32.4	35.1

	<u>First Period</u>	<u>Second Period</u>
Average Amount Spent for Food	\$190.14	\$197.72
Average No. Persons Served per Meal	20.7	19.6
Average Per Capita Cost per Day	33.7	35.4

in Group 3. There is a definite relationship between the amount of money used for food and the number of persons served in each group. In seven groups, Nos. 2, 3, 5, 7, 8, 10 and 12, the food costs were higher in the first period than in the second. In the remaining five groups, Nos. 1, 4, 6, 9 and 11, costs in the second period were higher.

The following explanation is given of terms used on Chart II:

Members. Include all resident members who are served regularly three meals a day.

Employees. Include the persons who are receiving their board as part wages for the services they render. The housemother, cook and one or two house boys make up this group.

Pledges. Include those who live in other places and take only a part of their meals with the group. In all of the groups these pledges pay a uniform rate of \$3.00 per month, for which they receive twelve meals during the month.

Guests. Include those persons served who are not included in the three groups mentioned above. Rushees, faculty members and friends are invited as guests.

SUMMARY OF CHART II

	<u>First Period</u>	<u>Second Period</u>
Average total meals served	1330	1244
Average number meals per day	62.3	58.9
Average number persons per meal	20.7	19.6
Average number non-paying people served per meal	3.9	4.0

The total number of meals served for each period is shown on Chart II. The division of this total into the number served to members, to employees, to pledges and to guests is also shown. In addition there is given number of meals served: (1) to persons eating regularly, including members and employees, (2) to paying persons including members and pledges, (3) to non-paying persons including employees and guests.

In the first period the average of the total number of meals served was 1330 or 62.3 meals per day with 20.7 persons per meal. In the second period the average of the total number of meals served was 1244 or 58.9 meals per day with 19.6 persons per meal. A week-end holiday including Monday, February 22, in the second period accounted partly for the decrease in the number served in that period.

An average number of 3.9 non-paying persons

(employees and guests) was served in each group during the first period. This average was 4 persons in the second period. This indicates that a slightly greater number of guests was served in the second period since the number of employees remained the same. The effects of the various numbers served in the two periods will be discussed under per capita costs.

Per Capita Food Costs

The average per capita cost per day was 33.7 cents in the first period and 35.4 cents in the second period, as is shown by the following summary. These figures are based on the total number of meals served during the four-week periods, and include guests as well as members, pledges and employees. (Summary of Per Capita Food Costs on page 69.)

There is a variation in the first period of 13.2 cents between the lowest and the highest costs in the different groups. Group 4 had the lowest per capita cost per day, 27.3 cents and Group 5 had the highest, 40.5 cents per day. The menus of the two managers of these groups do not show as much variation in selection and variety of food as the difference in costs would indicate. However, the total cost of food in Group 5 was over 100 per cent greater than the total cost in Group 4.

SUMMARY OF PER CAPITA FOOD COSTS

Group No.	For Total Meals Served		For Members and Employees Only	
	<u>First Period</u>	<u>Second Period</u>	<u>First Period</u>	<u>Second Period</u>
1	33.0	42.9	35.7	46.2
2	31.8	29.7	36.0	33.3
3	31.2	34.2	33.9	35.4
4	27.3	30.6	28.5	31.8
5	40.5	35.1	44.4	38.7
6	33.3	35.7	38.1	43.8
7	32.4	33.9	34.8	37.5
8	36.3	35.4	41.4	39.3
9	32.0	37.5	35.7	37.5
10	39.6	37.5	43.2	41.7
11	30.6	37.5	33.0	40.2
12	36.6	35.1	37.8	36.3
Ave. for Group	33.7	35.4	36.9	38.4

The number served was only 36 per cent greater. The difference in cost then was due largely to quantity and quality of food served, the use of more expensive foods, and of food accessories in Group 5. Chart I shows that Group 5 spent approximately twice as much for bread and rolls, three times as much for canned fruit, twice as much for fresh fruit, three times as much for canned vegetables and many times more for ice cream and for miscellaneous foods than was spent by Group 4.

In the second period the variation in per capita costs ranged from 29.7 cents in Group 2 to 42.9 cents in Group 1. Group 4 again had a low per capita cost of 30.6. Aside from these extreme variations from the average of 35.4 cents, the cost in the other groups ranged from 33.9 in Group 7 to 37.5 cents per capita per day in Groups 9, 10 and 11. Since the same menus were used, this uniformity of costs should have been shown in all groups. The low cost in Group 2 is explained by the omission of parts of the meal as planned on the uniform menus in order to reduce the cost. Some undetermined factor - probably number of meals reported - raised the cost in Group 1. Three hundred fewer meals were reported served in this group without any decrease in membership.

The widest variation in per capita costs between the first and second period was shown in Group 1, with a difference of 9.9 cents per person per day. Comparison of menus used in the two periods would not explain so great a difference in cost. The least variation in per capita costs between the first and second period was shown in Group 8, with a difference of .9 cent per person per day. There is a very small variation of 1.5 cents also between the costs for the two periods in both Groups 7 and 12. This might be interpreted as close relationship between standards of food selection and purchasing on the part of the food director and the managers of these three groups.

When the per capita cost for resident members and employees only is calculated for the two periods the average costs are raised from 33.7 to 36.9 cents in the first period, and from 35.4 to 38.4 in the second period. The effect on food costs of the number of meals served to guests is shown by comparisons of per capita costs calculated by these two plans.

This comparison brings out some interesting facts in relation to the food budget and its adequacy to meet the cost of meals served in all groups. The standard amount of 40 cents per person per day was agreed upon several years ago by all groups as an ade-

quate budget for the cost of raw food. This budget is calculated on the basis of number of persons eating regularly in the group and includes only resident members and regular employees. Pledges living out of the house pay \$3.00 per month for food eaten at the house, so that they are not included in the budget. No extra allowance is made for guests. Since practically all guests are invited for dinner, the cost of entertaining is greater than if it were divided evenly between the other less expensive meals. When per capita costs were calculated on the basis of number of meals served to resident members and employees, according to the amount budgeted, it was found that during the two periods of the study the 40-cent budget was adequate during the first period in all groups except Groups 5, 8 and 10. (Chart III) The per capita cost in Group 5 was 44.4 cents with 61 guests, in Group 8 was 41.4 cents with 28 guests and in group 10 was 43.2 cents with 22 guests.

In the second period the 40-cent budget was adequate in all houses except four. The per capita cost in Group 1 was 46.2 cents with 80 guests, 43.8 cents in Group 6 with 103 guests, 41.7 cents in Group 10 with 33 guests and 40.2 in Group 11 with 57 guests. The large number of guests served in the second period

accounts for the inadequacy of the budget. Groups 5 and 8, who exceeded the budget on their own planning, kept within it in the second period.

The conclusions drawn from these facts may be summarized: the 40-cent budget is adequate in the majority of groups for feeding a reasonable number of guests in addition to the number of members and employees eating regularly. The 40-cent budget is apparently inadequate (1) in groups where the membership is small and the proportion of guests served is large, and (2) in groups where menus are elaborate and many expensive foods are used. However, in spite of this calculation the fact remains that when total number of meals served are considered the budget was not exceeded except by .5 cent per person in Group 5 in the first period and by 2.9 cents by Group 1 in the second period. The budget is made on the total number of members and employees belonging to the group. The number of guests served in most groups is balanced by the number of members absent at various times for which no reduction in board is made.

Percentage Distribution of Food Expenditures

Comparison of the money and the percentage distribution of food expenditures for each group is shown on Charts IV and V. The amount spent for kitchen supplies has been taken from the total amount shown on Chart I in order to consider only food items in the percentage distribution of costs. This would make the study comparable to similar studies made in other institutions. The foods used were divided into ten classes. These classes, and the items included in each class are listed below:

1. Dairy products
milk, cream, ice cream, cheese
2. Eggs
3. Fats
butter, cooking fats, salad oil and dressing
4. Fruits
canned, dried and fresh
5. Grain products
bread and rolls, breakfast cereals, cornmeal, crackers, flour, macaroni, noodles, spaghetti and tapioca.
6. Meat, fish and poultry
fish, canned and fresh
meat, cured and fresh
poultry
7. Nuts
walnuts, almonds, peanuts, etc.
cocoanut and peanut butter
8. Sweets
sugar, molasses, syrup, jam, jellies, preserves and honey
9. Vegetables
canned, dried and fresh

10. Miscellaneous

beverages, cookies, doughnuts, catsup, chili sauce, cream dessert powders, extracts, gelatine and jello, kitchen bouquet, leavening agents, marshmallows, mar-chino cherries, olives, pickles, pimentoes, salt, canned soup, spices, vinegar, sauces and others not listed

Dairy Products. The average per cent spent for dairy products in the first period was 13.76. The highest per cent was 18.82 spent by the manager of Group 11 and the lowest was 10.96 per cent, spent by the manager of Group 10. The least amount of milk purchased was by the manager of Group 8 who was buying only one gallon of milk a day for 16 people while No. 11 was buying three gallons and one pint for 22 people. This group paid \$26.52 for milk alone - the highest amount paid for this item by any group. Although Group 8 spent \$21.95 which was 12.63 per cent of the total food expenditures, for dairy products, only \$7.28 of that amount was spent for milk. Of the balance, \$7.60 was spent for ice cream, \$4.36 for cheese and \$1.71 for cream.

There is an interesting relationship in Groups 10 and 11, between the percentage spent for dairy products, and that spent for other classes of food. Group 10 spent only 10.96 per cent for milk, cream,

cheese and ice cream but had a per capita cost of 39.6 cents for each meal. Group 11, with a low per capita cost of only 30.6 cents used 18.82 per cent for dairy products alone. With a per capita cost as low as 30.6 cents per day plenty of milk was needed to assist in making up for the deficiency of other foods.

Under the management of the food director, the range of percentages spent for dairy products was from 11.69 in Group 10 to 16.91 in Group 5 with an average of 14.29. This was .53 per cent higher than the average under individual management.

Eggs. The average percentage spent for eggs was 3.0 per cent of the total food cost in the first period and 2.9 per cent in the second. This difference was partly due to the slightly lower average price and to purchasing in half case rather than by the dozen. The per cent spent for eggs in the first period ranged from .87 per cent in Group 9 to 4.24 per cent in Group 10. In the second period the range was 2.31 per cent in Group 5 to 3.74 in Group 11. Eggs are a good source of iron, phosphorus and of vitamins A and D, and at prevailing prices were inexpensive sources of these valuable elements.

Fats. Per cents spent for fats which included

butter, cooking fats, oil and salad dressing, do not vary widely in amounts used in the different groups nor in the two periods. Butter was used by all of the groups for the table and for seasoning vegetables. The average expenditure for fats was 10.19 per cent in the first period and 9.6 per cent in the second. This was due to the reduction in the price of butter and not to the amount of butter used.

Fruits. In nine groups - all except Nos. 1, 2 and 3 - the percentage of food costs spent for fruit by the food director exceeded that spent by the individual managers. The average percentages were 12.3 in the first period and 13.61 in the second. This condition corresponds with most comparisons made between the diets planned by dietitians and those planned by students. However, the relatively high percentage used for fruits by these managers is very creditable.

Grain Products. In spite of the fact that breakfast cereals were unpopular with the groups at some of the houses, the individual managers spent a higher percentage for grain products than did the food director. In the second period more of the inexpensive and energy-giving cooked cereals were used. This class

of food also included bread and all of the other cereal products as well as breakfast cereals.

It is interesting to note that 9.76 was the highest percentage expenditure for cereals and was made by Group 2, whose per capita cost was below the average. The lowest expenditure for cereals was 5.22 per cent made in Group 8 whose per capita costs were above the average. In a low-cost diet, when fresh fruits and vegetables are lacking, the less expensive whole-grain cereals and breads help make up the needed supply of calories, minerals and vitamins, but are not suitable substitutes for the fresh foods.

Meat, Fish and Poultry. The average percentages spent for these foods was almost the same in the two periods. There was, however, a range of almost 10 per cent in the first period between Group 1 which spent the lowest or 16.92 per cent and Group 10 which spent the highest or 26.71 per cent. In the second period the range was between 19.91 per cent in Group 2 and 25.20 per cent in Group 10. Group 10 had the highest per cent for meats in both periods. The menus of this group show that meat and fish were sometimes used at luncheon. The average of 21 per cent spent for meats by all groups on the Oregon State College campus was similar to the amount spent by college groups on other

campuses.

Nuts. Amounts spent for nuts were most variable among the different groups. The percentage spent by individual managers was one and one half times as high as the percentage spent by the food director.

Sweets. The average of 3.64 per cent spent for sweets, including jams, preserves and honey, was exceeded in the first period by the manager of Group 9, who used 4.8 per cent for these items. Group 2 used the least or only 2.04 per cent for sweets.

In the second period the average was 3.39. Group 9 spent the lowest per cent which was 2.44 and Group 1 spent the highest which was 4.58.

Vegetables. The average per cent spent for vegetables was 17.81 in the first period and 17.83 in the second. In the first period Group 1 had the lowest percentage expenditure for meat and the highest for vegetables, which was 21.45 per cent. The lowest per cent used for vegetables was 15.10 per cent in Group 9.

In the second period, Group 8 used the highest per cent for vegetables and the lowest for fats.

Miscellaneous. The miscellaneous percentages, due to the large number of items included were quite variable. The average expenditure was nearly the same in both periods - 8.86 in the first and 8.39 in the

second -. The extremes in individual groups ran from the lowest in both periods in Group No. 4 to the highest in Group 12 in the first period and in Group 11 in the second.

It is to be expected that Group 4 with a low per capita cost would spend little on food accessories, and that No. 12 with a high per capita cost would use a higher percentage for these items.

Variation of Percentage Expenditures in the Second
Period

The variation of percentage expenditures in the different groups when uniform menus were planned by the food director in the second period can be explained in this manner. The fact that in spite of the willingness on the part of most of the managers to cooperate and follow menus as given, it was sometimes wise or necessary to make some changes or substitutions in the menus. These changes were made because there were left-over foods, special plans for guest meals, or general and personal dislikes of a group for certain foods, such as liver, parsnips, or tapioca. In certain groups parts of the menu were often omitted in order to cut down the cost of the meal. These omissions were usually the salad, dessert or the rolls, or some accessory

added to give interest and variety to the meal.

All such changes or omissions were noted on the menu sheet, and in checking these changes it is found that the managers who made the greatest number of changes varied the farthest from the average expenditures in the second period. Group 4 and Group 2, whose costs are low, frequently omitted a part of the menu as planned by the director.

During the last week of the study Groups 2, 5, 6, 7 and 11 entertained numbers of guests at special formal leap-year dinners, and some of the groups also had initiation dinners. On such occasions it seemed fair to allow the manager to plan her own menu with the approval of the food director. An effort was made to keep the expense as nearly uniform as possible.

Comparison with Other Studies

Studies Included for Comparison

A recent study by Trump (3) which is the most nearly comparable to the one herein described, was made in 1930 at Kansas State Agricultural College (3). In this study a food director planned the meals for three organized college groups, as explained in the review of literature. The average of percentage expenditures of these three groups included in this

study are given on Chart VI.

Hunt (1 - page 13) reports the average food consumption and percentage expenditures in 7 studies from dining halls under supervision of a dietitian, and 16 studies from the sororities, fraternities, and clubs at Washington State College.

Kramer and Grundmeir (5) and Raitt (4) furnished the data for other studies in 1926, the results of which are listed on Chart VI. There are included the results of investigations made in 1926 at Kansas State Agricultural College with 20 groups of college students; and at the University of Washington with 12 organized houses for college women. These studies were made on diets planned by managers within the student groups with no assistance from a directing dietitian.

Grace (6), in her study made at Oregon State College in 1929 shows the average percentage expenditures for one week for 9 sororities under individual management, and a dormitory under the management of a trained dietitian.

Comparison of Prices

Figures given by the Monthly Labor Review (9) and also by Louis L. Dublin (10), Statistician for the Metropolitan Life Insurance Company, show that food

prices in the United States remained fairly stationary from 1926 until 1929, since which time there has been a decrease of 27.7 per cent in the price of food as a whole. This change in prices would affect the amount of money spent, but should not greatly affect the percentage expenditures if the decrease has been uniform for all classes of foods.

Comparison of Oregon State College Study with
Other Studies

The average percentage distribution of expenditures for different classes of food on the Oregon State College campus, under centralized planning and supervision of the menus and food purchasing is very similar to the average percentage expenditures for organized groups at Kansas State Agricultural College under the management of a dietitian. The main difference appears in a slight increase spent for each kind of protein food reported in the Kansas Study (2), where the expenditures distribution for this type of food was 23.5 per cent for meat, 4.1 per cent for eggs, and 15.0 per cent for milk and its products. At Oregon State College the expenditure was 21.98 per cent for meat, 2.9 per cent for eggs and 14.29 per cent for milk. The Kansas Study

included one group of men, which would account for the use of greater amounts of meat. The meals planned by a dietitian at Oregon State College in 1929 for a women's dormitory used 28 per cent of the expenditure for meat and eggs, and the dietitian at Washington State College in 1926 used 25 per cent for meat and eggs.

The average per cent spent for milk in the nine sorority groups in 1929 on this campus was 11.33 per cent of the food expenditure. The calculation by Grace (6) of the food value of the diet in these groups showed that adequate calcium was being supplied by that amount. Since there was an increase of 2.43 per cent in the expenditure for milk in the first period and an increase of 2.96 per cent in the second period of this study it is safe to conclude that the amount of milk used supplied adequate calcium. These averages also correspond favorably with the 14 per cent which was spent for milk and its products at the Oregon State College dormitory in 1929.

The per cent spent for butter and other fats varied in the different studies from 9.2 per cent reported in 1930 by Trump (3) to 16 per cent for the dormitory reported in 1929 by Grace (6). The per cents used for butter and other fats in the two periods of the present study are 9.6 in the first period and 10.19 in the second. The

great reduction in the price of butter in 1932 in comparison to the prices in recent years and in proportion to the prices of other foods, would indicate that the amounts of butter used in the sorority groups this year equaled or exceeded the amount which is satisfactory and desirable.

The per cents of food expenditure used for grain products and for sugars and sweets do not vary widely among the groups at the various schools. The individual managers of organized groups in the Kansas Study (4) spent the highest or 12.6 per cent of their food costs for grain products and 7 per cent for sugar and sweets. The lowest proportion spent for grain products was 6 per cent for the dormitory in the study by Grace (6), and the lowest spent for sugar was 2.5 per cent used by the food director in the study by Trump (3). In every case where comparison can be made in the same school between the expenditure for menus planned by dietitians and those planned by untrained or inexperienced managers, the per cents spent for cereals and sugars are less for menus planned by a trained dietitian than those planned by untrained or inexperienced managers. The sororities and fraternities at Washington State College reported by Hunt (1) spent a proportion for grain products which was 50 per cent higher than that

spent by the dietitian planning for the dormitory. At Kansas State Agricultural College the untrained managers used 7 per cent for sugar and sweets, and the dietitian used only 2.5 per cent.

Each of the food directors at the State Colleges of Kansas, Washington and Oregon, used 31 per cent of the total expenditures for fruits and vegetables. The average per cent used by the individual managers of organized groups at Washington State College and Oregon State College came within one per cent of this figure. The lowest per cent was used by the organized groups at Kansas State Agricultural College in 1926 (5) with 24.2 per cent. All of these figures greatly exceed the family standards of 15-18 per cent for fruits and vegetables given by Sherman (7).

The managers of the sorority groups in 1932 used over 8 per cent of their food money for miscellaneous items, which is about one fourth more than that used by any other groups. It is difficult to explain this difference because of the large number of items included. It would indicate however that there was variety in the meals planned.

Sherman's Standards. The percentage expenditure for meals planned for adult groups do not correspond closely with family standards set up by Sherman (7).

Family standards include allowance for children of whose food requirements differ somewhat from those of the adults in college groups.

The average percentages spent for food on the Oregon State College campus compare very favorably with those of managers and dietitians in other colleges and universities. The percentage expenditures for fruits, vegetables, and milk are the highest or among the highest in the groups; meat expenditures are average; and fats, sugars, and cereals are low. These comparisons show that the foods supplying protein, minerals, and vitamins are being used in quantities which would indicate that the supply of these food elements is adequate and that on the whole the calories from fats and sweets are not excessive.

Per Capita Costs

There is an interesting variation in the per capita costs in the different groups under different management. The range was from 46.1 cents per day at Kansas State Agricultural College under the food director to 33.7 per day at Oregon State College in 1932 under individual management.

Comparison of per capita costs over a period of years is not conclusive when there is a variation in

prices. A general comparison made by the U. S. Bureau of Labor Statistics (9) shows that prices have remained fairly stationary from 1926 to 1929. Since 1929 there has been an average decrease of 27.7 per cent in food costs. When this decrease is considered, the per capita costs at Oregon State College in 1932 are not low in proportion to those quoted in other studies and would not indicate that the diet was inadequate because of low cost meals.

An increase of 27.7 per cent over the 33.7 per capita cost of the first period in 1932 shows that the same meals would have cost 43 cents per capita in 1929. Grace (6) concludes as a result of her study that "groups of college women can maintain a satisfactory standard of nutrition at a cost not exceeding 49 cents per day, provided knowledge of nutritive values and wise buying methods are employed." She states that 34 cents (1929 prices) per capita is too low for interest throughout the year. The average cost for the groups in that year was 40.7 cents.

SUMMARY AND CONCLUSIONS

1. The first period of individual management in each house was studied for four weeks. Menus used were

analyzed and compared with the general plan used by dietitians for adequate feeding of college women. Records were kept of food costs and number of meals served.

2. The second period of centralized planning and supervision of the menus and food purchased was managed for four weeks by a food director trained in institutional economics.

3. Comparisons of food costs in the two periods show the following:

Comparison of Individual Management and Centralized Planning and Supervision by a Food Director of the Menus and Food Purchasing for Twelve Sororities at Oregon State College

1. The average total cost of food

First Period - \$190.14

Second Period - \$197.72

2. Average number of persons served per meal

First Period - 20.7

Second Period - 19.6

3. Average per capita cost per day

First Period - 33.7

Second Period - 35.4

4. Summary of division of sorority groups into classes according to per capita costs

	<u>First Period</u> <u>No. Groups</u>	<u>Second Period</u> <u>No. Groups</u>
a. Cost below average	5 groups	2 groups
b. Average per capita cost	3 groups	6 groups
c. Cost above average	4 groups	4 groups

5. Average percentage distribution of expenditures

	<u>First Period</u>	<u>Second Period</u>
Dairy products	13.76	14.29
Eggs	3.00	2.90
Fats	10.19	9.60
Fruit	12.30	13.61
Grain products	7.53	7.10
Meats	21.51	21.98
Nuts	1.15	.79
Sweets	3.64	3.39
Vegetables	17.81	17.83
Miscellaneous	8.86	8.39

The percentage distribution of expenditures was nearly the same in the first period under individual

management and in the second period under centralized planning and supervision by the food director.

The distribution of expenditures under centralized planning corresponded more closely to the standards of other dietitians than did the distribution under individual management.

6. The difference between the expenditures under individual management and under planning and supervision of the food director is much greater in certain groups for the two periods than is shown by the difference in averages for all of the groups. These differences are due (a) to the non-conformance of certain individual managers to the accepted general plan used by dietitians for adequate feeding of college women, (b) to selection of food and balance of food nutrients, (c) to quality and quantity of food purchased. Food prices at the Cooperative Storeroom which were uniform for all groups and nearly stationary during the eight weeks of the study did not materially affect the cost under the different plans of management in the first and second periods.

7. The budget of 40 cents per day per person, uniform for all groups, is adequate for feeding members, employees and guests in the majority of houses.

Comparison of the Two Plans of Management

Advantages of Individual Management in First Period

1. Gives group opportunity to set and maintain own standards and adopt scale of living in keeping with financial condition.
2. Allows freedom of group to appoint manager needing financial aid.
3. Affords close contact of manager with problems of the commissary in the kitchen and dining room.
4. Provides for the student manager good experience in management and opportunity to develop executive ability, and chance to earn all or part of living expenses.

Disadvantages of Individual Management in First Period

1. Necessitates frequent change of managers.
2. Results in expensive mistakes of untrained and inexperienced or extravagant managers.
3. May result in inadequate nutrition in order to meet other house expenses.
4. Results in lack of sufficient time for supervision and planning on the part of student

carrying a full school program.

5. Gives no opportunity to check ability and competency of manager before election to office.
6. Makes appointment of manager to office based on:
 - a. Popularity of student
 - b. Necessity of work to lessen expense

Advantages of Centralized Planning and Supervision
of Menus and Food Purchasing by Food Director in
Second Period

1. Maintains standards for adequate nutrition in each group.
2. Affords greater saving to group through more quantity buying, advance planning, knowledge of market conditions and of general food economics.
3. Gives to each group the benefit of training and experience of food director.
4. Gives advantage of broader viewpoint, greater interest in and more attention to the food problems than is given by some untrained student managers.

5. Makes possible close study of special and general problems followed by adjustment of unsatisfactory conditions.
6. Gives to student manager the opportunity for practical training and experience under direction of a competent dietitian.

Disadvantages of Centralized Planning and Supervision

1. Results in objections of groups to uniform menus.
2. Causes group to feel loss of liberty in planning and spending own money for food.
3. Gives limited personal supervision of food selection and preparation.
4. Causes difficulty in making allowances for special entertaining and individual problems.

A Method of Giving More Definite and Practical Assistance to the Individual Managers.

1. Neither independent individual management nor centralized planning of menus as carried on in this study, is entirely satisfactory for all groups.
2. A more satisfactory method of supervision would be a combination of the two plans, where-

by the supervising director, as a member of the working staff at the Cooperative Managers' Association, would assist and advise individual commissary managers in their planning and purchasing.

3. This arrangement would:
 - a. Allow groups to retain their individuality.
 - b. Give definite assistance in solving specific and general problems.
 - c. Lessen the responsibility of busy student managers.
 - d. Give student managers the advantage of obtaining valuable experience under supervision.
 - e. Save waste of money resulting from expensive mistakes of careless or inexperienced managers.
 - f. Give to house groups the benefit of assistance of one who made a close study of special problems in the field of sorority house management and institutional economics.

CHART - I
COST OF FOOD USED

Group	No. 1		No. 2		No. 3		No. 4		No. 5		No. 6		No. 7		No. 8		No. 9		No. 10		No. 11		No. 12	
	A°	B+	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Beverages	5.54	6.70	4.34	4.34	5.41	4.95	4.25	4.67	6.02	2.13	2.60	3.05	3.70	3.00	5.30	4.25	4.99	3.01	2.47	2.52	3.72	3.01	8.70	6.07
Bread and rolls	11.44	14.91	9.41	6.63	6.74	7.32	5.09	5.75	10.13	8.45	7.02	7.35	10.03	12.73	6.14	6.80	5.02	5.58	4.34	4.27	9.02	10.43	17.36	14.21
Breakfast cereals	3.82	1.41	1.40	3.13	1.66	1.28	.35	1.08	2.01	1.55	1.15	1.49	2.04	1.23	1.84	1.47	3.60	2.44	.79	1.36	2.96	1.74	1.29	1.33
Other cereal products	3.58	4.98	6.45	4.17	1.83	1.91	3.66	2.74	6.81	3.12	3.59	6.24	6.91	4.88	1.10	1.26	2.71	2.00	4.52	1.76	5.07	5.32	6.31	8.40
Butter	22.18	21.48	13.38	12.87	9.66	9.10	9.24	8.58	12.94	12.14	11.90	10.33	17.34	13.38	9.26	8.02	9.72	8.56	8.96	10.66	14.24	15.58	22.42	20.28
Cheese	1.91	4.77	1.30	2.77	1.80	1.21	2.41	1.86	2.80	1.75	2.97	2.79	2.05	4.41	4.36	1.79	.69	1.40	1.85	3.19	2.95	2.86	2.95	4.03
Milk	21.71	22.99	16.04	15.84	13.10	13.52	14.28	14.28	18.18	17.92	21.56	21.56	14.28	19.86	7.28	7.28	13.65	14.28	11.76	11.76	26.52	18.76	19.27	17.84
Cream	1.00	.60	None	.30	None	.30	None	.30	4.23	2.85	1.19	1.53	1.37	None	1.71	3.18	.15	1.07	None	None	.75	None	13.89	17.29
Eggs	7.77	8.03	5.40	4.95	4.24	3.48	5.20	6.55	6.55	4.85	6.45	4.98	7.96	4.75	4.30	4.12	3.75	4.40	6.92	5.09	5.65	8.23	8.16	7.63
Fats	1.47	.84	2.45	1.38	2.80	2.34	3.97	3.55	3.00	1.82	1.84	3.55	1.55	1.67	1.07	1.51	2.58	4.41	2.63	1.00	.67	.87	3.81	3.80
Fruit, canned	13.79	18.44	23.62	15.05	13.63	9.61	6.25	7.75	18.06	16.08	9.99	12.66	13.94	18.00	10.52	11.58	5.68	14.15	6.72	10.26	11.08	11.59	27.92	23.68
Fruit, dried	2.06	1.14	1.19	.99	.55	1.03	1.79	1.22	1.85	2.78	1.64	1.06	1.90	1.20	.92	.50	.26	1.68	2.22	.68	2.03	2.70	2.97	3.46
Fruit, fresh	15.19	14.29	6.39	6.78	11.08	8.63	5.51	10.76	10.76	12.85	11.15	14.20	4.58	8.44	7.68	8.34	6.33	6.82	9.74	11.49	8.08	10.05	10.90	17.62
Ice cream	11.15	13.05	2.65	3.45	1.70	1.75	2.10	4.30	14.60	12.47	3.05	8.95	6.80	3.60	8.60	9.25	3.40	7.65	4.25	2.60	9.95	8.70	7.40	8.05
Honey, jam, preserves	3.80	8.75	1.21	2.69	4.80	2.16	.88	1.55	3.80	5.00	4.65	4.65	2.25	2.20	3.45	1.95	1.60	1.75	3.40	1.25	.50	4.08	2.80	1.75
Fish, canned	3.05	1.16	2.75	2.30	.90	2.20	.95	3.36	4.20	4.95	3.35	3.60	2.30	3.00	5.97	2.05	1.81	3.50	3.55	2.01	6.85	3.15	4.25	6.72
Fish, fresh	2.85	1.76	None	None	1.73	.60	1.69	1.88	4.40	1.40	1.38	3.09	3.90	1.22	1.30	1.32	1.17	None	3.83	1.10	3.95	None	.44	1.90
Meat, cured	2.80	15.12	4.79	3.55	1.45	4.23	2.78	3.37	3.96	4.65	8.17	8.44	4.18	2.00	5.16	3.91	.80	5.55	9.23	7.18	8.04	6.57	4.48	15.95
Meat, fresh	33.96	39.53	28.57	27.87	22.07	23.68	21.37	22.72	36.71	35.94	22.62	30.30	41.43	41.80	31.37	29.39	21.60	23.49	26.91	27.54	28.11	34.79	67.07	42.97
Nuts	None	.95	.73	1.00	1.85	1.12	2.47	1.00	1.57	1.20	1.55	1.80	2.05	1.59	1.71	.39	3.83	2.05	3.77	1.35	.58	1.14	4.09	5.96
Salad oil and dressing	6.80	5.45	2.85	3.00	2.27	2.15	1.71	1.58	7.25	4.67	3.97	4.80	4.18	3.67	3.40	3.80	2.30	3.75	3.14	3.38	3.04	4.50	8.49	7.25
Sugar and syrup	3.46	4.45	2.40	3.66	3.27	2.99	3.78	4.08	2.82	2.66	2.85	2.93	4.24	3.04	3.24	3.03	4.66	2.01	4.16	3.16	5.00	3.47	9.24	7.54
Vegetables, canned	25.98	19.49	21.56	15.93	12.31	15.32	10.44	15.19	32.05	17.70	17.69	13.24	12.78	11.05	17.20	17.06	11.48	13.42	16.59	16.13	16.03	9.95	32.22	31.14
Vegetables, dried	2.00	.22	.33	.31	.38	.65	.69	.34	1.02	.52	.99	.37	.43	.36	None	.32	.55	.39	.18	.49	.40	.26	1.03	.65
Vegetables, fresh	26.08	32.52	10.47	11.42	9.64	10.01	10.58	13.89	14.22	17.01	17.11	18.59	18.47	18.60	18.82	15.77	7.67	12.85	12.07	14.13	18.04	27.97	23.65	20.95
Miscellaneous	18.65	25.13	7.01	14.96	6.84	6.96	1.48	4.04	19.50	10.35	14.28	15.70	7.62	10.20	11.99	9.34	10.41	7.36	8.89	6.72	20.10	24.28	33.11	19.42
Kitchen supplies	4.44	1.29	3.50	2.27	1.19	.94	.94	1.16	2.39	2.94	3.25	2.96	2.05	1.55	2.02	1.19	1.12	1.12	1.24	1.61	1.31	1.86	4.74	4.23
Totals	256.48	289.45	180.19	171.61	142.90	139.50	123.86	147.55	251.83	209.75	187.96	210.21	200.32	197.43	175.71	158.87	131.53	154.69	164.13	151.69	214.64	221.86	348.96	320.12

° - Column A, - First Period
+ - Column B, - Second Period

CHART - II
NUMBER OF MEALS SERVED

Group	No. 1		No. 2		No. 3		No. 4		No. 5		No. 6		No. 7		No. 8		No. 9		No. 10		No. 11		No. 12		Average		
	A°	B†	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	
Members	1820		1255		925		1051		1394		1229		1467		1027		859		885		1608		2446		1330		
		1564		1288		858		1110		1309		1179		1322		960		892		835		1318		2296		1244	
Employees	335		246		336		249		302		250		251		243		245		252		335		320		280		
		310		252		324		271		308		252		246		245		252		252		336		336		282	
Pledges	85		114		74		17		94		128		60		140		69		78		105		30		83		
		68		117		31		16		62		87		90		94		53		91		59		28		66	
Guests	85		42		38		45		67		90		63		28		49		22		43		52		52		
		80		67		9		42		101		103		82		40		33		33		57		65		49	
Totals	2325		1657		1373		1362		1857		1697		1841		1438		1222		1237		2091		2848		1745		
		2022		1724		1222		1439		1780		1621		1740		1339		1230		1211		1770		2725		1651	
Meals served to resident members and employees	2155		1501		1261		1300		1696		1479		1718		1270		1104		1137		1943		2766		1610		
		1874		1540		1182		1381		1617		1431		1568		1205		1144		1087		1654		2632		1526	
Meals served to paying people (members and pledges)	1905		1369		999		1068		1488		1357		1527		1167		928		963		1713		2476		1329		
		1632		1405		889		1126		1371		1266		1412		1054		945		926		1377		2324		1310	
Meals served to non-paying people (guests and employees)	420		288		374		294		369		340		314		271		294		274		378		372		332		
		390		319		333		313		409		355		328		285		285		285		393		401		341	
Average number of meals served per day	83.0		59.1		49.0		48.6		66.3		60.6		65.7		51.3		43.6		44.1		74.6		101.7		62.3		
		72.2		61.5		43.6		51.3		63.5		57.8		62.1		47.8		43.9		43.2		63.2		97.3		58.9	
Average number of persons served per meal	27.6		19.7		16.3		16.2		22.1		20.2		21.9		17.1		14.5		14.7		24.8		33.9		20.7		
		24.0		20.5		14.5		17.1		21.1		19.2		20.7		15.9		14.6		14.4		21.0		32.4		19.6	
Average number of members and employees served per meal	25.6		17.0		15.0		15.4		20.1		17.6		20.4		15.1		13.1		13.5		23.1		32.9		19.0		
		22.3		18.3		14.0		16.4		19.2		17.0		18.6		14.3		13.6		12.9		19.6		31.3		18.1	
Average number of paying people served per meal	22.6		16.2		11.8		12.7		17.7		16.1		18.1		13.8		11.0		11.4		20.3		29.4		16.7		
		19.4		16.7		10.5		13.4		16.3		15.0		16.8		12.5		11.2		11.0		16.3		27.6		15.5	
Average number of non-paying people served per meal	5.0		3.5		4.5		3.5		4.4		4.1		3.8		3.3		3.5		3.3		4.5		4.5		3.9		
		4.6		3.8		4.0		3.7		4.8		4.2		3.9		3.4		3.4		3.4		4.7		4.8		4.0	

° - Column A - First Period
† - Column B - Second Period

CHART - III
PER CAPITA COSTS

Group	No. 1		No. 2		No. 3		No. 4		No. 5		No. 6		No. 7		No. 8		No. 9		No. 10		No. 11		No. 12		Totals	Average
	A*	B*	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B		
Total cost of food	256.48		180.19		142.90		123.86		251.83		187.96		200.32		175.71		131.53		164.13		214.64		348.96		2281.71	190.14
Total number of meals served	2325	289.45	1657	171.61	1373	139.50	1362	147.55	1857	209.75	1697	210.21	1841	197.43	1438	158.87	1222	154.69	1237	151.69	2091	221.86	2848	320.12	2372.73	197.72
Per capita cost per meal per person served (Includes guests)	11.0	2022	10.6	1724	10.4	1222	09.1	1439	13.5	1780	11.1	1621	10.8	1740	12.1	1339	10.7	1230	13.2	1211	1770	2725	19823	1651.9	11.24	
Per capita cost per day per person served	33.0	14.3	31.8	09.9	31.2	11.4	27.3	10.2	40.5	11.7	33.3	12.9	32.4	11.3	36.3	11.8	32.0	12.5	39.6	12.5	30.6	12.5	36.6	11.7	11.89	11.89
Per capita cost per meal for resident members and employees	11.9	42.9	12.0	29.7	11.3	34.2	09.5	30.6	14.8	35.1	12.7	35.7	11.6	33.9	17.1	35.4	11.9	37.5	14.4	37.5	37.5	37.5	36.6	35.1	33.7	35.4
Per capita cost per day for resident members and employees	35.7	15.4	36.0	11.1	33.9	11.8	28.5	10.6	44.4	12.9	38.1	14.6	34.8	12.5	41.4	13.1	35.7	12.5	43.2	13.9	33.0	13.4	37.8	12.1	12.6	12.3
Per capita cost per meal for members and pledges	13.4	46.2	13.1	33.3	14.3	35.4	11.5	31.8	16.9	38.7	13.8	43.8	13.1	37.5	15.0	39.3	14.1	37.5	17.0	41.7	40.2	36.3	36.9	38.4	14.0	38.4
Per capita cost per day for members and pledges	40.2	17.7	39.3	12.2	42.9	15.6	34.5	13.1	50.7	15.2	41.4	16.6	39.3	13.9	45.0	15.0	42.3	16.3	51.0	16.3	37.5	16.1	42.0	13.7	15.1	15.1
		53.1		36.6		46.8		39.3		45.6		49.8		41.7		45.0		48.9		48.9		48.3		38.1		45.1

* - Column A, First Period
+ - Column B, Second Period

CHART - IV
MONEY DISTRIBUTION OF FOOD EXPENDITURES

Group	No. 1		No. 2		No. 3		No. 4		No. 5		No. 6		No. 7		No. 8		No. 9		No. 10		No. 11		No. 12	
	A°	B+	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Dairy products	35.77	41.41	19.99	22.36	16.60	16.78	18.79	20.74	39.80	34.99	28.77	34.83	24.50	27.87	21.95	21.50	17.89	24.40	17.86	17.55	40.17	30.32	43.51	47.21
Eggs	7.77	8.03	5.40	4.95	4.24	3.48	5.20	6.55	6.55	4.85	6.45	4.98	7.96	4.75	4.30	4.12	3.75	4.40	6.92	5.09	5.65	8.23	8.16	7.63
Fats - butter, cooking fat, salad oil and dressing	30.45	27.77	18.68	17.25	14.73	13.59	14.92	13.71	23.19	18.63	17.71	18.68	23.07	18.72	13.73	13.33	14.60	16.72	14.73	15.04	17.95	20.95	34.72	31.33
Fruits - fresh, canned & dried	31.04	33.87	31.20	22.82	25.26	19.27	13.55	19.73	30.67	31.71	22.78	27.92	20.42	18.72	19.12	20.42	12.27	22.65	18.68	22.43	21.19	24.34	41.79	44.76
Grain products	18.84	21.30	17.26	13.93	10.23	10.57	9.10	9.57	18.95	13.12	11.76	15.08	18.98	18.84	9.08	9.53	11.33	10.02	9.65	6.39	17.05	24.96	24.96	23.94
Meat, fish & poultry	42.66	57.57	36.11	33.72	26.15	30.71	26.79	31.33	49.27	46.94	35.52	45.43	51.81	48.02	43.80	36.67	25.38	32.54	43.52	37.83	46.95	44.51	76.24	67.54
Nuts	None	.95	.73	1.00	1.85	1.12	2.47	1.00	1.57	1.20	1.55	1.80	2.05	1.59	1.71	.39	3.83	2.05	3.77	1.35	.58	1.14	4.09	5.96
Sweets - sugar, syrup & preserves	7.26	13.20	3.61	6.35	8.07	5.15	4.66	5.63	6.62	7.66	7.50	7.58	6.49	5.24	6.69	4.98	6.26	3.76	7.56	4.41	5.50	7.55	12.04	9.29
Vegetables - fresh, canned & dried	54.06	52.23	32.36	27.66	22.33	25.98	21.71	29.42	47.29	35.23	35.79	32.20	31.67	30.01	36.02	33.15	19.70	26.66	28.84	30.75	34.47	38.18	56.90	52.74
Miscellaneous	24.19	31.83	11.35	19.30	12.25	11.91	5.73	8.71	25.52	12.48	16.88	18.75	11.32	13.20	17.29	13.59	15.40	10.37	11.36	9.24	23.82	27.29	41.81	25.49
Totals spent for food	251.98	288.16	176.69	169.34	141.71	138.56	122.92	146.39	249.44	206.81	184.71	207.25	198.27	195.88	173.69	157.68	130.41	153.57	162.89	150.08	213.33	220.00	344.22	315.89
Kitchen Supplies	4.44	1.29	3.50	2.27	1.19	.94	.94	1.16	2.39	2.94	3.25	2.96	2.05	1.55	2.02	1.19	1.12	1.12	1.24	1.61	1.31	1.86	4.74	4.23
Totals spent for food & supplies	256.42	289.45	180.19	171.61	142.90	139.50	123.86	147.55	251.83	209.75	187.96	210.21	200.32	197.43	175.71	158.87	131.53	154.69	164.13	151.69	214.64	221.86	348.96	320.12

° - Column A, - First Period
+ - Column B, - Second Period

CHART - V
PERCENTAGE DISTRIBUTION OF FOOD EXPENDITURES

Group	No. 1		No. 2		No. 3		No. 4		No. 5		No. 6		No. 7		No. 8		No. 9		No. 10		No. 11		No. 12		Average	
	A°	B+	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Dairy products	14.19		11.31		11.71		15.28		15.95		15.57		12.35		12.63		13.71		10.96		18.82		12.64		13.76	
Eggs	3.08	14.37	3.05	13.20	2.99	12.11	4.24	14.16	2.62	16.91	3.49	16.80	4.01	14.22	2.48	13.63	.87	15.88	4.24	11.69	2.64	13.78	2.37	14.94	3.00	14.29
Fats	12.08	2.78	10.57	2.92	10.39	2.51	12.13	4.47	9.29	2.31	9.58	2.40	11.63	2.42	7.90	2.61	11.19	2.86	9.04	3.39	8.41	3.74	10.08	2.41	10.19	2.90
Fruits	12.31	9.63	10.57	10.18	10.39	9.80	12.13	9.36	9.00	9.01	9.58	9.01	11.63	9.55	8.45	11.19	9.40	10.88	10.02	9.52	9.91	9.91	10.08	9.91	9.60	
Grain products	7.47	11.75	17.65	17.82	17.82	13.90	11.02	13.47	15.33	13.47	12.33	13.47	10.29	14.11	11.00	12.95	9.40	14.74	11.46	14.94	7.99	11.06	14.16	12.30	13.61	
Meat, fish, poultry	16.92	7.39	9.76	8.22	7.21	7.62	7.40	6.53	6.34	7.27	6.36	7.27	9.57	9.61	5.22	6.04	8.68	6.52	5.92	4.25	7.95	7.95	7.25	7.57	7.10	
Nuts	None	19.97	20.43	19.91	18.45	22.16	21.79	21.40	22.69	21.92	19.23	21.92	26.13	24.51	25.21	23.25	19.46	21.18	26.71	25.20	22.00	20.23	22.14	21.38	21.98	
Sweets	2.88	.32	.41	.59	1.30	.80	2.00	.68	.58	.86	.83	.86	1.03	.81	.98	.24	2.93	1.33	2.31	.89	.27	.51	1.18	1.88	.79	
Vegetables	21.45	4.58	2.04	3.74	5.69	3.71	3.79	3.84	3.70	3.65	4.06	3.65	3.27	2.67	3.85	3.15	4.80	2.44	4.64	2.93	2.57	3.43	3.49	2.94	3.39	
Miscellaneous	9.59	18.12	18.31	16.33	15.75	18.75	17.66	20.09	17.03	15.53	19.37	15.53	16.05	15.32	20.73	21.02	15.10	17.36	17.70	20.48	16.15	17.35	16.53	16.69	17.83	
	11.04	6.42	6.42	11.39	8.64	8.59	4.66	5.94	6.03	9.13	5.70	9.04	5.70	6.73	9.95	8.61	11.80	6.97	6.15	11.16	12.40	12.14	8.06	8.86	8.39	

° - Column A, - First Period
+ - Column B, - Second Period

CHART - VI
COMPARISON WITH OTHER STUDIES

	Percentage Distribution of Food Expenditures									Family Standards Sherman
	O.S.C. 1932 Lewis Second Period	O.S.C. 1932 Lewis First Period	K.S.A.C. 1930 Trump Food Director	K.S.A.C. 1926 Kramer & Grundmeir	W.S.C. 1926 Hunt Dietitian	W.S.C. 1926 Hunt No Dietitian	U.of W. 1926 Raitt	O.S.C. 1929 Grace Sororities	O.S.C. 1929 Grace Dormitory	
Meat, fish, fowl	21.98	21.51	23.5	21.0	25	21	23.3	29.87	28.0	17-25
Eggs	2.90	3.00	4.1	5.1			4.0			
Milk, cream, ice cream and cheese	14.29	13.76	15.0	12.1	9 ⁺	9 ⁺	14.3	11.33	14.	25-30
Butter and other fats	9.60	10.19	9.2	11.6	#	#	13.3	13.99	16.	10-12
Grain products	7.10	7.53	7.7	12.6	8	12	9.4	8.0	6.	12-15
Sugar, etc.	3.39 ⁺	3.64	2.5	7.0	#	#	4.2	4.33	5.	3
Fruits, vegetables	31.44	30.11	31.4	24.2	31	31	24.8	27.0	26.	15-18
Nuts	.79	1.15	.5	.7	#	#	.7			
Miscellaneous	8.39	8.86	5.9	5.8	27	27	5.8	5.66	5.0	
Ave. Cost per Capita per Day	35.4	33.7	46.1	35.6	44.5	38.4	42.	40.7	41.	
Range of per Capita Cost	29.7 to 42.9	27.3 to 40.5		24. to 52.				34. to 49.		

⁺ - Ice cream not included.

- Included in miscellaneous.

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