THE USE OF FRESH, FROZEN, CANNED, AND DRIED PEACHES IN FOOD SERVICE INSTITUTIONS

Thesis for the Degree of M. S.

MICHIGAN STATE COLLEGE
Shirley M. Allen
1950

THESIS

This is to certify that the

thesis entitled

The Use of Fresh, Frozen, Canned, and Dried Peaches in Food Service Institutions

presented by

Shirley M. Allen

has been accepted towards fulfillment of the requirements for

M.S. degree in Institution Administration

Mabelle S. Ehlers
Major professor

Date Feb. 15, 1950

O-169

THE USE OF FRESH, FROZEN, CANNED, AND DRIED PEACHES IN FOOD SERVICE INSTITUTIONS

by

Shirley M. Allen

A THESIS

Submitted to the School of Graduate Studies of Michigan State College of Agriculture and Applied Science in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

Department of Institution Administration

1950

THESIS

/

thanks
particul
and supe
E. Crave
rendered
and to
in the

ACKNOWLEDGEMENTS

The writer wishes to express her appreciation and thanks to all who assisted in making this thesis possible: particularly to Professor Mabelle S. Ehlers for guidance and supervision of this thesis; to Dean Marie Dye, Dr. M. E. Cravens, Mr. H. D. Hootman, and Dr. W. D. Baten who rendered valuable assistance by their suggestive criticism; and to Mr. Jackson E. Towne, Librarian, for his assistance in the compilation of the literature cited.

233053

I.

II.

III.

IV.

V.

VI.

VII.

VIII.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF CHARTS

I INTRODUCTION AND OBJECT OF STUDY

That peaches are an important fruit in the food service of most institutions is generally recognized. Peaches are, also, an important crop in Michigan agriculture. A study of their use and place in institution food service merits investigation by the Institution Administration Department of the School of Home Economics of Michigan State College.

A previous study, An Evaluation of Dried, Canned, and Frozen Peaches for Institution Pie Making, was made in 1947 by Dorothy Ramsland. As a result of this, further investigation of peaches was recommended (25). This study was undertaken to learn how peaches are used in various types of food service units and to suggest the place that they might have in such institutions. In order to do this it was necessary to determine how institutions use fresh, frozen, dried, and canned peaches; to compare the popularity of these same items in institutions; to determine the varieties of each most generally used by foods operations; to determine whether institutions have a preference for peaches from a particular area or state; and to determine the characteristics and factors which influence foods operators in their selection of this fruit.

II REVIEW OF LITERATURE

The history, classifications, nutritive value, and production of peaches were discussed in detail by Dorothy Ramsland (25). The first three areas need little mention here. Production, however, was discussed prior to 1946; hence the three years since then will be reviewed in brief. Production figures were obtained from United States Department of Agriculture publications Crops and Markets and Marketing the Michigan Peach Crop and from the Michigan Department of Agriculture publications Crop Report for Michigan, January - February, 1947, December, 1948, and January - February, 1949. In addition, the varieties of peaches, only briefly discussed in Miss Ramsland's study, will be reviewed, as well as information on peach grading.

A. Peach Production. A record crop of 86,643,000 bushels of peaches was produced in 1946 (26), and Michigan's contribution to this total figure was 5,100,000 bushels (26). In state production, California led by a wide margin with 37,086,000 bushels. In second place was South Carolina with 5,994,000 bushels; in third place, Georgia with 5,628,000 bushels; in fourth place, Michigan with 5,100,000 bushels; and in fifth place, North Carolina with 3,160,000 bushels (26).

The 1947 crop fell below the crop of 1946 by over 4,000,000 bushels. California was still in first place with 33,003,000 bushels; South Carolina moved into second place with 6,630,000 bushels; Georgia was in third place with 5,810,000 bushels; and Michigan again placed fourth with 4,300,000 bushels (30).

The estimates of the 1948 crop show that peach production was down almost to the 1936-1945 average of 62,936,000 bushels (26). The total crop figure was 65,749,000 bushels (29). California produced 30,086,000 bushels, Michigan 3,582,000 bushels, South Carolina 3,320,000 bushels, Georgia 2,812,000 bushels, and Arkansas 2,482,000 bushels (29).

Illustrating the preceding statistics, Charts I, II, and III show the five leading peach producing states and their percentage of production in relation to the total crop for the years 1946, 1947, and 1948 respectively.

According to Mr. C. L. Bolander of the Michigan Department of Agriculture, the 1949 predictions on July first indicated a national crop of 76,250,000 bushels. Michigan anticipates a crop of 4,125,000 bushels.

B. Peach Varieties. Dr. U. P. Hedrick, noted horticulturist, in an article in The American Fruit Grower (15) gives the following explanation of varieties. Variety, as the fruit grower uses the term, means a group of individuals whose differences are too slight to entitle them

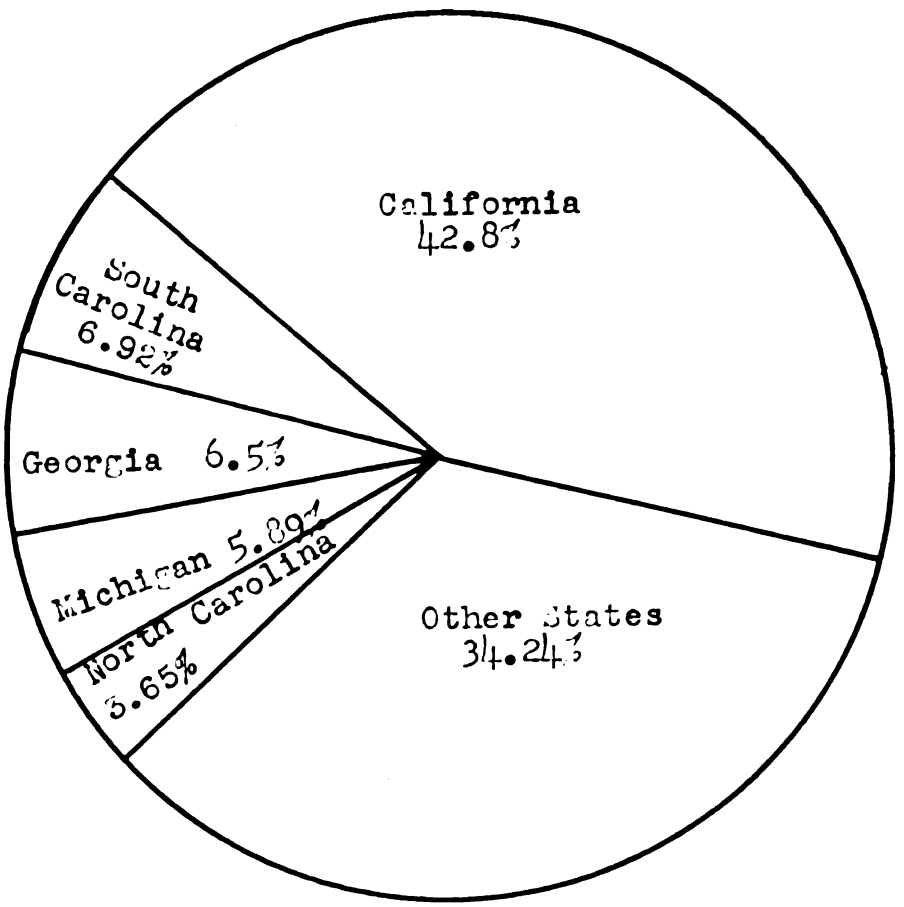


Chart I

PEACH PRODUCTION IN 1946 SHOWING PERCENTAGE OF TOTAL CROP IN VARIOUS STATES

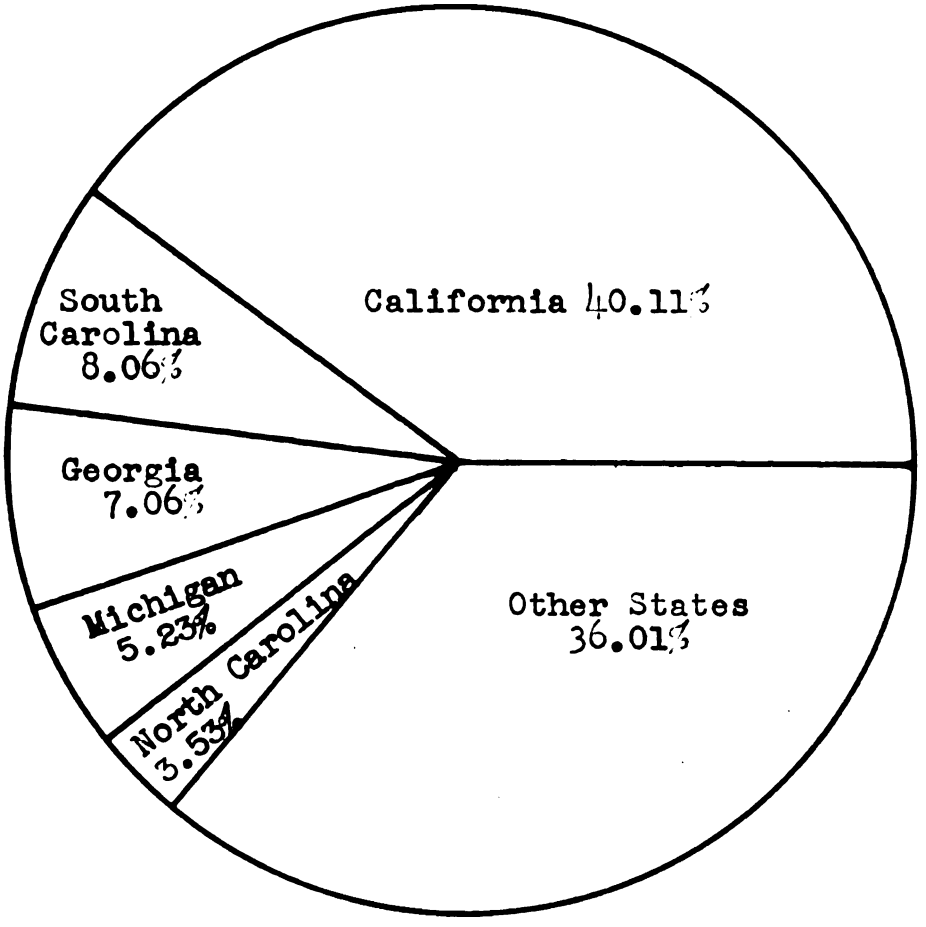


Chart II

PEACH PRODUCTION IN 1947 SHOWING PERCENTAGE OF TOTAL CROP IN VARIOUS STATES

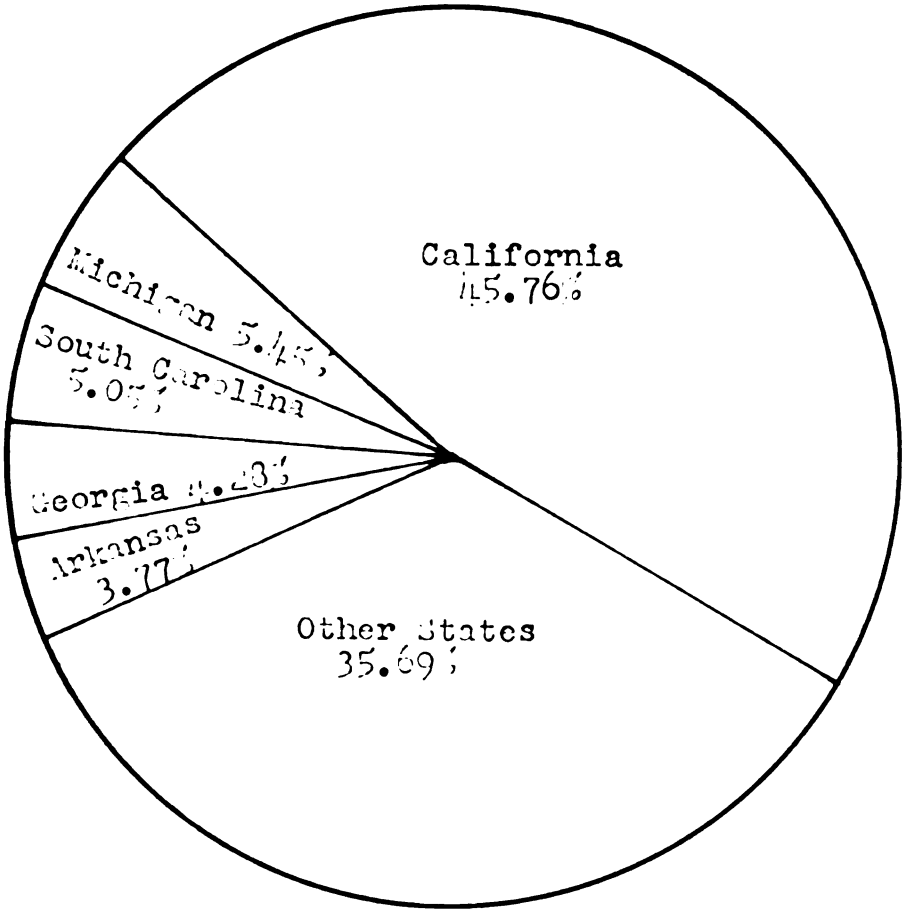


Chart III

PEACH PRODUCTION IN 1948 SHOWING PERCENTAGE OF TOTAL CROP IN VARIOUS STATES

to rank as a species. Several other distinctions set off varieties from species. These are: 1) crosses between varieties can almost always be made to obtain orchard varieties; 2) sports are very common in varieties, not so common in species; 3) permanency is a strong tendency in orchard varieties; and 4) in the nursery all are propagated by buds, grafts, cuttings, stolons, and root division, not by seeds.

There are literally hundreds of peach varieties. Dr. U. P. Hedrick in The Peaches of New York describes over 700 (14). Agricultural Extension bulletins and reports from the various peach producing states also describe or list many varieties. Georgia Experiment Station lists 162 (33); Texas Experiment Station refers to several hundred tested by Nacogdoches Substation Number Eleven (34); South Carolina lists fifty-three (16); New Jersey records eighty-five (1); and California describes seventy-eight (24). A recent survey (32) by Dr. W. H. Alderman of the Minnesota Experiment Station showed that twenty-three United States Experiment Stations and three Canadian Stations were engaged in breeding new peach varieties. They introduced thirty-four new varieties between 1940 and 1947, and it is anticipated that sixty-three additional ones will be introduced in the next five years. In addition, individuals and commercial nurseries are expressing their interest in improving peach varieties by introducing new peaches at the rate of forty

or fifty a year, according to the 1945 "Index" of the American Pomological Society (32). Planters are continually searching for good quality varieties which will mature at different dates, which will be hardy in the colder areas, which will not be susceptible to delayed foliation in the warmer areas, which will meet the soil conditions and local requirements of various regions, and which will stand the rigors of shipping to consumer markets.

Mr. Stanley Johnston, Superintendent of the Experiment Station at South Haven and one of Michigan's leading peach authorities, gives evidence that the peach variety list changes rapidly when he says that of all the commercial peach varieties recommended for planting in Michigan twenty-five years ago, Elberta alone remains (17).

Dr. F. P. Cullinan in "Improvement of Stone Fruits" that appeared in the Yearbook of The Department of Agriculture for 1937 gives the following information on the Elberta peach. Elberta was produced by the late S. H. Rumph at Marshallville, Georgia, in 1870. He produced it from a seed of Chinese Cling (5). The Elberta is the most important commercial variety in the United States. It is a freestone peach, in spite of being a cling seedling. It ships well and yields a satisfactory product when canned or frozen. Although the tree is tender in the bud and the fruit has a bitterness of flavor unless fully ripened on the tree, the Elberta peach is the one with which comparisons are made, according to Stanley Johnston (18). E. D.

Gensinger, a Washington fruit grower with many years of experience, in an article in the Peach Annual for 1947 (11) says that any other variety of peach can be appraised as being as good as, better, or worse than Elberta. In addition to shipping well when fresh and being a satisfactory canning and freezing peach, the Elberta has other characteristics in its favor. It is satisfactory in quality, yellow in flesh color, well-colored and attractive in appearance, large in size, and well adapted to many growing areas. Although in time it may be supplanted by some other variety, it is firm in its position at present.

However, there are a number of other varieties that are worthy of consideration. The J. H. Hale might have driven the Elberta off the market years ago had it been sufficiently productive according to Dr. M. J. Dorsey, Chief in Horticulture at the University of Illinois (7). Varieties other than Elberta that are widely grown and do have commercial value are: Albright Cling, Arp Beauty, Currie, Dixie-gem, Early Crawford, Early Elberta, Early Halehaven, Early Rose, Fairhaven, Fair's Beauty, Fay Elberta, Gaume, Georgia Belle, Goldeneast, Golden Jubilee, Halehaven, Halford Number 2., Hauss, Hiley, J. H. Hale, Johnson, July Elberta, Kalhaven, Late Elberta, Libbee, Lovell, Muir, Nestor, Paloro, Peak, Phillips Cling, Redhaven, Rio Osa Gem, Rochester, Sims, Southhaven, Sullivan Number 4, Summercrest, Sunhigh, and Triogem.

Table I is a condensed record of the forty-one varieties listed above. It lists first the peach variety; next the place of origin, if the information was available; then the date of origin and the originator or introducer. Then follows the descriptive information on appearance and type factors. These factors are vitally important to the consumer. In the eleventh column the quality is rated. A good quality peach should be free from blemishes, should have a fresh "live" appearance, should have a good skin color for the variety, and the flesh should be fairly firm. The four columns following the quality column indicate whether the peach variety is satisfactory as a fresh, frozen, canned, or dried product. An x in the column means that the variety has value for that use. The next three columns indicate the popularity of that particular variety. An x means that the variety is firm in its position, gaining in popularity, or losing in popularity depending upon where the x is placed. The last column classifies the variety as to time of maturity.*

C. Peach Grading. Colonel Paul P. Logan, Director of the Food Research Department for the National Restaurant Association (19), says that peaches ripen so quickly that they may change from a condition of immaturity to one of over-ripeness in several days. Peaches should reach the market nearly ripe but still firm enough to be handled

---

*See pages 11, 12, and 13.

irmness

on-melt

oft-mel

elting

irm

elting

irm-mel

oft-mel

oft-mel

irm-mel

irm

elting

elting

irm


Firm
Melt
Melt
soft
Melt
Soft
Firm
Firm
Melt
Firm
Firm
Melt
Firm
Melt
Firm
Melt
Melt

through ordinary channels of trade without injury to flesh or skin.

In a report written by John H. Heckman, Senior Agricultural Economist, he told of the study made in 1947 by the Colorado Experiment Station at Fort Collins in cooperation with the United States Department of Agriculture. This study was conducted to determine consumer preference in peaches. It was made in the St. Paul and Minneapolis markets. Results from the study showed that consumers distinctly preferred firm ripe to tree ripe or hard ripe fruit (13).

When shipment of peaches is made by truck to nearby markets, the fruit is often permitted to ripen on the tree. In this type of distribution the fruit is usually harvested, delivered, and marketed in less than forty-eight hours. When deliveries are to be made to more distant distribution points, either by truck or rail, the fruit is harvested before it becomes tree ripe. Some orchards by pre-cooling their fruit previous to shipping are able to pick their fruit in a mature, firm ripe stage and be certain that the consumer will receive a satisfactory peach. An experiment reported by H. A. Cardinell of Michigan State College (27) might in time result in the consumer receiving high quality peaches at all times. In this experiment peaches were Stericooled before being shipped. Warm peaches, fresh from the orchard, in a mature, firm ripe stage were cooled by

the Stericool process to insure them against developing brown rot and being bruised during shipment. These treated peaches were shipped to markets on the East coast and far South, as well as to less distant points. Upon arrival at the distribution points, the peaches were still firm, and the incidence of brown rot was considerably less than on untreated shipments from the same lot of peaches.

It is unfortunate that there are growers who attempt to have their peaches reach the high-priced early market and who are very fearful of grade reductions; they, in consequence, pick their peaches in a highly green state. These growers tend to ship peaches to market so green that they shrivel instead of ripening. The peaches develop a weak color, have a tough rubbery flesh, and are poor in flavor. They are often worthless and very detrimental to consumer acceptance of later mature, firm ripe peaches (19). From various reports in The Peach Annuals of the National Peach Council it is very evident that leading peach producers, wholesale buyers, and horticulturists are attempting to discourage this practice. These individuals are extremely interested in developing packing methods, packages, cooling methods, and transportation facilities that will result in the consumer receiving a high quality peach (28) (9) (12) (20) (21) (22) (10) (6) (2) (3) (4) (23) (31).

Overmature peaches in contrast to underripe peaches bruise easily and deteriorate rapidly. They have a dull color and are soft to the touch.

Other defects that affect peach acceptance are growth cracks and worm injury. Worm injury may be detected by unevenness in the peach form or small punctures from which sap exudes (19).

Peach grades according to United States Standards include Fancy, U.S. Extra No. 1, U.S. No. 1, U.S. No. 2, and Unclassified. The requirements for each grade appear in the Appendix, pages 88 - 93. Terms used in grade descriptions are also given there, as well as marking requirements for size and packing requirements.

III METHOD OF PROCEDURE

To obtain information on the institution use of peaches a questionnaire was constructed. This four page check-list type questionnaire*, was sent to various types of institutions including college dormitories, commercial cafeterias, restaurants, and hotels within the United States. Each questionnaire was accompanied by a letter explaining the purpose of the study. In a number of cases follow-up letters were sent out to institutions within certain states from which no replies had been received.

A total of 522 questionnaires was sent to institution operators. These questionnaires were sent to every state and also to Hawaii and Washington, D. C.

The first portion of the questionnaire was for the purpose of obtaining general information about the institution answering. These items included kind of business, number and type of food service units, type of service, training of manager, approximate number of meals served per day, and the average meal check. The second portion of the questionnaire dealt with peaches. Information was asked for the estimated amounts of fresh, frozen, dried, or canned peaches used per week and per year, the months

*See Appendix page 95.

when these commodities were used and the ways in which they were used. Then information was requested on the varieties of fresh, frozen, and canned peaches used. In an attempt to see if any state's peaches were favored or if states tended to use their own product, the question "From what State does your chief supply of peaches come?" was included. Next, desirable characteristics of fresh and canned peaches were to be checked. Then came a portion in which reasons for using or not using all types of peaches were to be written. The next to the last question was on fruit competitors of the peach, and the last question dealt with the relative importance of quality and quantity.

When the questionnaires were returned, a key was made; the answers tabulated; and the tabulations were put on International Business Machine cards for ease in analyzing. Some of the answers did not lend themselves to punch-card technique, and these were tabulated separately so that the data could be used later in setting up tables and charts.

IV DISCUSSION OF DATA

The final number of questionnaires returned was 197, representing a return of 37.7 percent. Forty-six states, Hawaii, and Washington, D. C. replied. The two states not replying were New Jersey and South Carolina. Of the total number of institutions reporting six, or 3.1 percent, did not use peaches of any type in their operations. These six represented businesses 1) which served bakery desserts that were purchased elsewhere or 2) which were speciality restaurants serving a set menu that did not include peaches.

Forty-one, or 20.8 percent, of the returned questionnaires were from hotels, fifty-five, or 27.9 percent, from restaurants, fifty-four, or 27.4 percent, from cafeterias, and forty-seven, or 23.9 percent, from dormitories.

A. Relation of Quantity of Peaches to Certain Operational Factors. In studying the data obtained from the first section of the questionnaire, it was evident that the quantity of peaches used might be affected by: 1) the kind of business, 2) the type of service, 3) the number of food service units within a given business, 4) the number of meals served per day, and 5) the price charged per meal. Hence, it was decided that comparisons or correlations would be made on these factors.

The first comparison made was between the kind of business and the average amount of fresh, frozen, dried, and canned peaches used by each institution per day per person served. This average was obtained by dividing the average pounds of fresh, frozen, dried, or canned peaches which an institution used per week by the average number of customers it served per day. These averages were then added together to give the total average pounds of peaches used per week by the institution. For example: the totals for all hotels were added together, and the resulting sum was divided by seven in order to convert the average which was a weekly one to a daily one. Then this total daily average was divided by the number of hotels reporting. The answer obtained was the average pounds of peaches used per person served per day. A similar procedure was used for restaurants, cafeterias, and dormitories. Table II is a summary of the figures obtained.

Table II

Relation of Kind of Business to Quantity of Peaches Served

Type of institution	Number of institutions reporting	Sum of average pounds of peaches used per person per day	Average pounds peaches used per person per day
Hotels	35	1.23	.035
Restaurants	44	1.08	.025
Cafeterias	51	1.07	.021
Dormitories	46	1.82	.040

Although the variation in amounts of peaches used per day by types of institutions is small, the results from this comparison show that dormitories used more peaches than hotels, restaurants, and cafeterias.

A comparison was next made between the type of service and the average quantity of peaches used by each institution per day per person served. The types of service to be checked were waiter or waitress and cafeteria. Some institutions checked both types. 174 institutions, of the 197 answering, provided the data necessary to make this analysis. The average pounds of peaches used per day per person served was obtained in the same manner as for the preceding comparison. For example: The averages for all institutions which used waitress or waiter service only were added together to give the total average quantity of peaches used per week. The sum of the averages was divided by seven in order to convert the average which was a weekly one to a daily one. This answer was divided by the number of institutions having waiter or waitress service. The result gave the average pounds of peaches used per day per person. The same procedure was followed for cafeteria service only and for a combination of cafeteria and waiter or waitress service. Table III is a summary of the figures obtained.

Table III

Relation of Type of Service to the Quantity of Peaches Used

Type of service	Number of institutions reporting	Sum of average pounds of peaches used per person per day	Average pounds peaches used per person per day
Self-service or cafeteria	49	1.35	.028
Waiter or waitress	87	2.74	.031
Combination of first two	38	1.07	.028

The average number of pounds of peaches used per person per day varied only slightly, but the results point out that waitress or waiter type service used more peaches than cafeteria type service.

The results of these two studies indicate that cafeterias use somewhat fewer peaches than other types of operations. This is, in all probability, due to the importance of the appearance factor in the selection of food. Since hotels and restaurants are largely waiter type service and since dormitory clientele have a limited choice menu, peaches are more often served by the operator of service establishments and dormitories than the customer would choose if left to himself, as is the case in cafeterias.

In the comparison made between the number of food service units in a single operation and the quantity of

peaches used per day per person served a procedure similar to that used for the two previous comparisons was followed. A total of 169 institutions provided the data necessary to make this analysis. These institutions had from one to nine food service units. The average pounds of peaches used per week was obtained in the same manner as for the first comparison. For example: The averages for all institutions with one food service unit were added together to obtain the sum of the averages. This answer was then divided by seven in order to convert the average from a weekly one to a daily one. This answer was then divided by the number of institutions reporting one unit. The result gave the average pounds of peaches used per person per day for one unit operations. Similarly the data on the average pounds of peaches for institutions having from two to nine food service units was obtained. Table IV is a summary of the results.

Table IV

A Comparison of the Number of Food Service Units in a Single Operation to the Quantity of Peaches Used

Number of food service units	Number of institutions reporting	Sum of average pounds of peaches used per person per day	Average pounds peaches used per person per day
One	41	1.10	.027
Two	42	1.31	.031
Three	34	.97	.029
Four	20	.78	.039
Five	10	.36	.036
Six	7	.16	.023
Seven	7	.18	.026
Eight	2	.09	.045
Nine	6	.11	.018

The data indicate that most institutions with more than one food service unit used more peaches than a single unit, but it cannot be said that the more service units a food business has the more peaches that business uses. Had the sampling been larger, more definite findings might have been obtained.

A scatter diagram was made to see if any correlation existed between the number of persons served and the quantity of peaches used. On the horizontal axis the number of persons, to the nearest hundred, served per day was recorded. On the vertical axis the number of pounds

of peaches, to the nearest hundred, used per year was designated. 172 of the 197 institutions supplied the data necessary for this scatter diagram. The dots on Chart IV signify the results from the 172 institutions. Since these dots appeared to follow somewhat of a definite path, it was concluded that some relationship existed between the number of persons served and the quantity of peaches used. Groupings were made to further substantiate the findings; persons served per day were grouped into classes of 500 each. The pounds of peaches used per year for each class were averaged. The figures for these averages appear in Table V.

Table V

Quantity of Peaches Served per Person Class
Based on Number Fed per Day

Number of persons served per day	Average pounds of peaches used per year
0 - 500	3,705
600 - 1,000	5,715
1,100 - 1,500	8,570
1,600 - 2,000	10,236
2,100 - 2,500	18,942
2,600 - 3,000	22,764
3,100 - 3,500	12,229
3,600 - 4,000	7,600
4,100 - 4,500	26,433
4,600 - 5,000	12,300
5,100 - 5,500	25,900
5,600 - 6,000	10,100
6,100 - 6,500	-
6,600 - 7,000	-
7,100 - 7,500	52,700
7,600 - 8,000	-
8,100 - 8,500	-
8,600 - 9,000	-
9,100 - 9,500	33,800
9,600 - 10,000	14,400
10,100 - 14,500	-
14,600 - 15,000	13,100
15,100 - 54,500	-
54,600 - 55,000	110,000

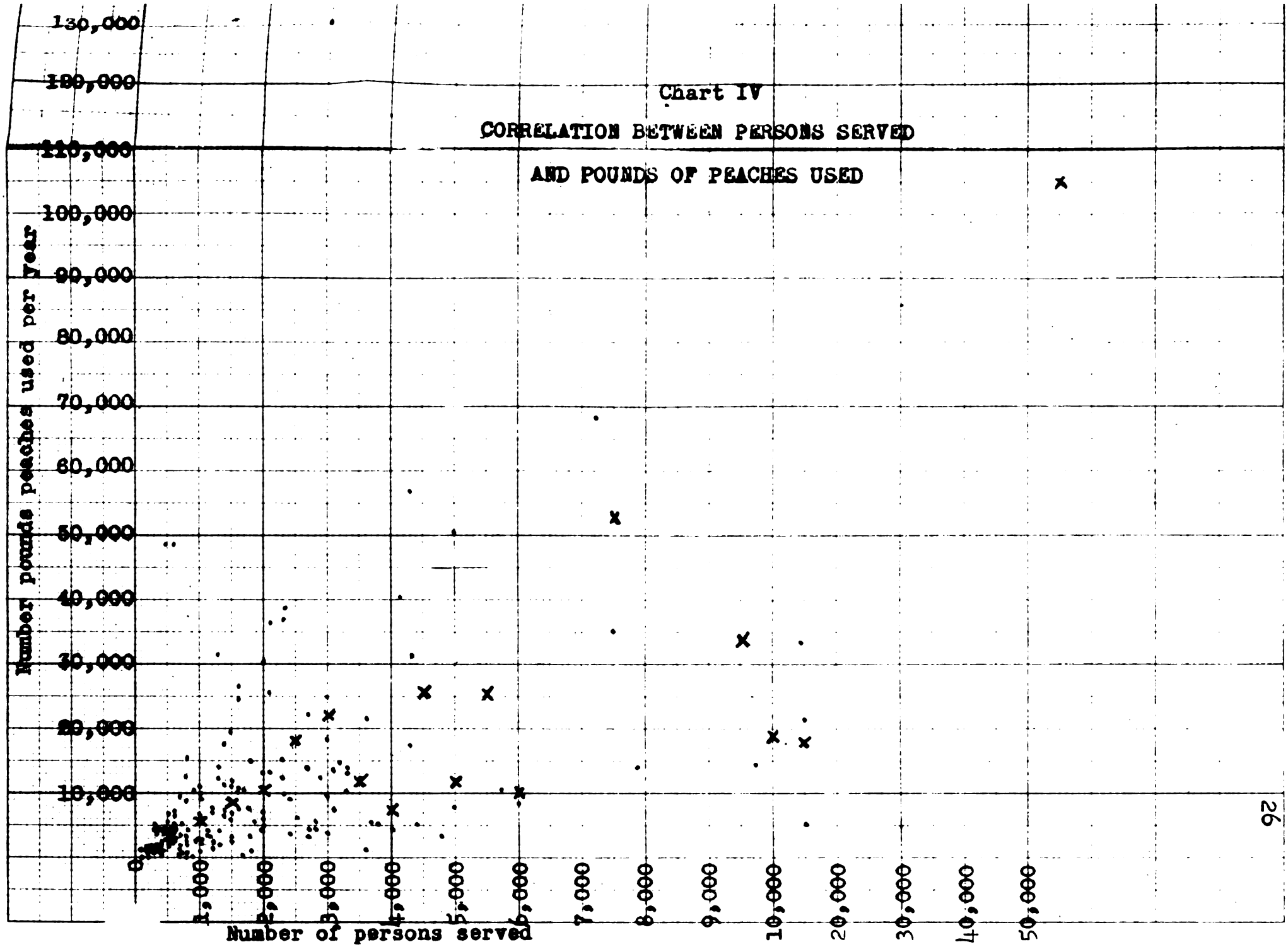


Chart IV
CORRELATION BETWEEN PERSONS SERVED
AND POUNDS OF PEACHES USED
Number pounds peaches used per year
130,000
120,000
110,000
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
20,000
30,000
40,000
50,000
Number of persons served

Then in Chart IV at the midpoint of each class the average for that class was plotted with a red x. These red x's appear to tend toward a curve which indicates correlation between these variables. Had the sampling been larger, it, undoubtedly, would have given good proof that a definite correlation exists between the size of the food service unit and the quantity of peaches that a unit uses.

Another scatter diagram was made to see if any correlation existed between the price charged per meal and the quantity of peaches used. On the horizontal axis the average meal check price was designated. On the vertical axis the number of pounds of peaches, to the nearest hundred pounds, used per year was recorded. 160 of the 197 institutions supplied the data necessary for this correlation. The dots on Chart V indicate the results from the 160 institutions. Since these dots did not appear to indicate relationship between the price charged and the number of pounds of peaches used, groupings were made to further test the findings. The average meal prices were grouped into classes of twenty-five cents each. The pounds of peaches used per year for each class were averaged. The figures for these averages appear in Table VI. On Chart V at the midpoint of each class the average for that class was plotted with a red x. These red x's show no tendency to form a curve; hence, it can be said that there is little correlation between the price charged and the quantity of peaches used.

Chart V

CORRELATION BETWEEN PRICE CHARGED

AND POUNDS OF PEACHES USED

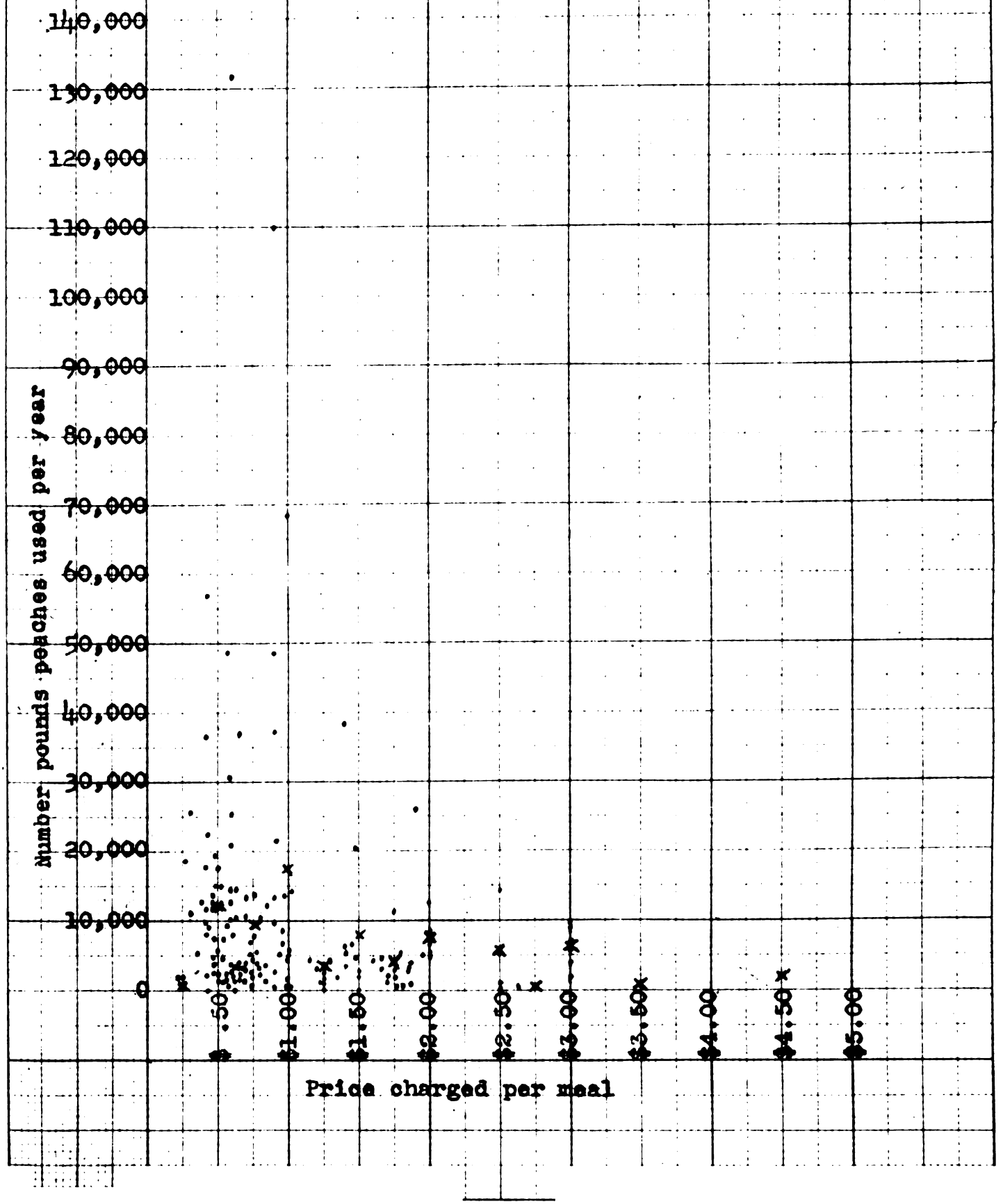


Table VI

Quantity of Peaches Served per Meal Class Based on Price

Price charged per meal $	Average pounds of peaches used per year
.01 - .25	200
.26 - .50	12,355
.51 - .75	9,476
.75 - 1.00	17,265
1.01 - 1.25	3,300
1.26 - 1.50	8,075
1.51 - 1.75	4,400
1.76 - 2.00	6,521
2.01 - 2.25	-
2.26 - 2.50	5,625
2.51 - 2.75	400
2.76 - 3.00	6,017
3.01 - 3.25	-
3.26 - 3.50	900
3.51 - 3.75	-
3.76 - 4.00	-
4.01 - 4.25	-
4.26 - 4.50	2,000

B. Relation of Quantity of Peaches Used to Season. Information obtained in answer to the question, "Which months during the year do you use fresh peaches?", showed that all types of institutions questioned used fresh peaches from May through October. One cafeteria reported that it used fresh peaches in November. This, of course, might occur in a Southern state where some local areas do have peaches on the trees as late as November. The heaviest use of fresh peaches was shown in August and September with hotels and cafeterias reporting the greatest use in September, and dormitories and restaurants reporting the greatest use in August. It is interesting to note that in

July, August, and September, which are the months when fresh peaches are on the market in the greatest quantity, all types of institutions were using them. This might be due to an attempt by institutions to adapt and vary menus by serving in-season fruits and vegetables, or it might also indicate that fresh peaches are a popular item and because of public demand they are put on the menu when available. (Chart VI.)

Frozen peaches were used by all types of institutions questioned. Peaches in this form were served by the four food service types from January through December. The heaviest use in each instance occurred during December, January, February, and March, and a marked decrease is shown during July, August, and September when fresh peaches are in season. In all probability fresh peaches are substituted for part of the frozen peaches used regularly. Frozen peaches, however, are not entirely displaced even during these months. (Chart VII.)

Dried peaches are the least popular of all types of this fruit. Hotels showed very little consumption of dried peaches. They served them only in January, February, and March, in all probability due to a shortage of other fruits at the price which they chose to pay. Restaurants used more than hotels but showed very low consumption, too. Serving of the dried product dropped during July and August. Cafeterias and dormitories, on the whole being cheaper

Chart VI

MONTHS DURING WHICH FRESH PEACHES ARE USED

Chart VII

MONTHS DURING WHICH FROZEN PEACHES ARE USED

operations, showed greater use of dried peaches, but even these operations showed a decrease in amount served during the fresh peach months of July, August, and September. (Chart VIII.)

Canned peaches showed greater popularity than fresh, frozen, or dried peaches with all four groups, and the use extended over the entire year in each case. There was a marked drop in the use of canned peaches during July, August, and September in hotels, restaurants, and dormitories; however, cafeterias showed only a slight drop in canned peaches used during those months. (Chart IX.)

C. Relation of the Types of Peaches to Ways of Serving. Thirty-seven hotels, thirty-nine restaurants, forty-five cafeterias, and forty-five dormitories or a total of 163 institutions checked the ways in which they served fresh peaches. These figures represent 87.8 percent of the hotels, 70.9 percent of the restaurants, 83.3 percent of the cafeterias, and 93.6 percent of the dormitories or a total of 82.7 percent of the 197 institutions which answered the questionnaire. The ways of serving to be checked were: sliced, cakes and pies, salads, and other desserts. In addition to checking the listed uses, a space was left to allow operators to write in any other ways in which they used fresh peaches. Short cakes, cobblers, ice cream sundaes, peach Melbas, tortes, Bettys, crisps, fruited jellos, and whips were classified as other desserts.

Number of cafeterias

Number of hotels

Chart VIII

MONTHS DURING WHICH DRIED PEACHES ARE USED

Chart IX

MONTHS DURING WHICH CANNED PEACHES ARE USED

Table VII shows in percents the results obtained on this question. The data indicate that, for the total 163 institutions reporting, fresh peaches were used most often for slicing, then for salads, for other desserts, for cakes and pies, as whole fruit, for fruit cocktail, and for preserves, in the order listed. Cafeterias used fresh peaches in the same sequence. Hotels reported using more fresh peaches for other desserts than for salads and did not serve any peaches as whole fruit. In restaurants fresh peaches were used most in salads, then in cakes and pies, and next sliced. Dormitories used more fresh peaches for other desserts than for salads; otherwise, the uses were in the same order as for the total group.

Table VII

Ways of Serving Fresh Peaches

Fresh peaches	Total institutions (163) %	Hotels (36) %	Restaurants (39) %	Cafeterias (45) %	Dormitories (44) %
Sliced	85.9	91.6	71.8	84.4	93.2
Salad	73.0	72.2	79.5	73.3	65.9
Other Desserts	66.9	75.0	59.0	64.4	68.2
Cakes and Pies	57.7	69.4	76.9	55.6	31.8
Served as Whole Fruit	6.1	0	2.6	11.1	9.1
Fruit Cocktail	3.7	8.3	2.6	2.2	2.3
Preserves	1.8	2.8	2.6	0	2.3

Twenty-one hotels, twenty-two restaurants, thirty-four cafeterias, and thirty-two dormitories or a total of 109 institutions checked the ways in which they used frozen peaches. These figures represent 51.2 percent of the hotels, 40.0 percent of the restaurants, 62.0 percent of the cafeterias, and 68.1 percent of the dormitories, or a total of 55.3 percent of the 197 institutions which answered the questionnaire. The uses to be checked were sliced with sugar and cream, cakes and pies, salads, and other desserts. In addition to checking the listed uses a space was left to allow operators to write in any other ways in which they used frozen peaches. Other desserts were the same as for fresh peaches.

Table VIII shows in percents the results obtained. From these percents it is indicated that for the total 109 institutions reporting, frozen peaches were used most often for cakes and pies, then for other desserts, next for slicing, salads, preserves, and fruit cocktails, in the order listed. Hotels and dormitories used frozen peaches in the same sequence as the total group, excepting that hotels reported no use of frozen peaches for fruit cocktail, and dormitories reported no use of this type of peaches for preserves or fruit cocktails. Restaurants reported using as many frozen peaches for salads as for other desserts and used no frozen peaches for preserves or in fruit cocktails. Cafeterias used these peaches for other desserts most often and used none for preserves.

Table VIII

Ways of Serving Frozen Peaches

Frozen peaches	Total institutions (109) %	Hotels (21) %	Restaurants (22) %	Cafeterias (34) %	Dormitories (32) %
Cakes and Pies	63.3	81.0	86.4	38.2	62.5
Other Desserts	55.0	52.4	31.8	52.9	71.9
Sliced	26.6	42.9	9.1	29.4	25.0
Salads	19.3	19.0	31.8	11.8	18.8
Preserves	1.8	9.5	0	0	0
Fruit Cocktail	1.8	0	0	5.9	0

Only seven hotels, three restaurants, twelve cafeterias, and eighteen dormitories, or a total of forty institutions, checked the ways in which they used dried peaches. These figures represent 17.1 percent of the hotels, 5.5 percent of the restaurants, 22.2 percent of the cafeterias, and 38.3 percent of the dormitories or a total of 20.3 percent of the 197 institutions which answered the questionnaire. The uses to be checked were stewed, cakes and pies, and other desserts. In addition to checking the listed uses a space was left to allow operators to write in any other way in which they used dried peaches. Other desserts were the same as for fresh peaches.

The results for dried peaches are given in Table IX. These figures indicate that from the total forty institutions reporting, dried peaches were used most often for stewing,

next for cakes and pies, then for salads, for other desserts, and for preserves, in the order listed. Cafeterias and dormitories used dried peaches in the same sequence as the total group, except that cafeterias reported no use of dried peaches for other desserts and dormitories reported no use of this item for other desserts or preserves. Hotels reported using dried peaches for cakes and pies, for stewing, and for salads, in the order listed. They did not use any dried peaches for other desserts or preserves. All the restaurants answering the question reported using dried peaches for salads, two-thirds of them used dried peaches for stewing and for cakes and pies, and one-third used this item for other desserts. Restaurants used no dried peaches for preserves.

Table IX

Ways of Serving Dried Peaches

Dried peaches	Total institutions (40) %	Hotels (7) %	Restaurants (3) %	Cafeterias (12) %	Dormitories (18) %
Stewed	72.5	57.1	66.7	66.7	83.3
Cakes and Pies	65.0	85.7	66.7	66.7	55.6
Salads	35.0	14.3	100.0	50.0	22.2
Other Desserts	2.5	0	33.3	0	0
Preserves	2.5	0	0	8.3	0

Thirty-seven hotels, forty-five restaurants, fifty-one cafeterias, and forty-seven dormitories or a total of 180 institutions checked the ways in which they used canned

peaches. These figures represent 90.2 percent of the hotels, 81.8 percent of the restaurants, 94.4 percent of the cafeterias, and 100 percent of the dormitories, or a total of 91.4 percent of the 197 institutions which answered the questionnaire. The uses to be checked were: dessert as is, cakes and pies, salads, and other desserts. In addition to checking the listed uses a space was left to allow operators to write in any other ways in which they used canned peaches. Other desserts were the same as those listed for fresh peaches.

Table X shows percentage results for canned peaches. From these percents it can be noted that for the total 180 institutions reporting, canned peaches were used most often for salads, next for dessert as is, then for cakes and pies, for other desserts, spiced or preserved, and for cocktail or fruit soup in the order listed. Hotels and dormitories used canned peaches in the same sequence as the total group. Restaurants and cafeterias used canned peaches for other desserts more often than for cakes and pies, and cafeterias used no spiced peaches or preserves; otherwise these operators followed the same sequence as for the total group.

Table X

Ways of Serving Canned Peaches

Canned peaches	Total institutions (180) %	Hotels (37) %	Restaurants (45) %	Cafeterias (51) %	Dormitories (47) %
Salads	90.6	83.8	82.2	96.1	97.9
Dessert as it is	75.0	75.7	53.3	82.4	87.2
Cakes and Pies	63.3	64.9	46.7	64.7	76.6
Other Desserts	59.4	45.9	51.1	66.7	70.2
Spiced or Preserves	6.1	5.4	6.7	0	12.8
Cocktail or Fruit Soup	3.9	5.4	4.4	3.9	2.1

In summarizing the results shown in Tables VII, VIII, IX, and X, it can be concluded that sliced fresh peaches, stewed dried peaches, and canned peaches as they come from the can are very generally served. The use of all types of peaches for salads appears to be of considerable importance. This might indicate that some operators confused salads and fruit cups and may have been serving peaches for a fruit cup and thought it was a salad. Many restaurants list fruit salad on the menu but actually serve fruit cup and call it a salad. It is doubtful if many institutions actually use peaches in salads as the term is generally understood by trained food people. The term salad in this study is conceded to mean a dish composed of vegetables, fruit,

protein, or any combination of such with an acid dressing such as mayonnaise, French, cooked, or modifications of any of these. There is a dried fruit salad including dried peaches but few institutions use them thus, and the few who might would not serve this salad often.

Cakes and pies were checked together. The results would have been more accurate had these two been separate items. Preserves, spiced peaches, fruit cocktail, and fruit soup were minor uses made of all types of peaches.

D. Varieties of Peaches Used. The varieties of fresh peaches used by hotels, restaurants, cafeterias, and dormitories are shown by Chart X. In each group a certain percent of operations used no fresh peaches, a certain percent did not know the varieties they were using, and a certain percent of restaurants and hotels did not answer the question. The tabulations of these answers along with the total percents of those institutions reporting on varieties used appear in Table XI.

protein, or any combination of such with an acid dressing such as mayonnaise, French, cooked, or modifications of any of these. There is a dried fruit salad including dried peaches but few institutions use them thus, and the few who might would not serve this salad often.

Cakes and pies were checked together. The results would have been more accurate had these two been separate items. Preserves, spiced peaches, fruit cocktail, and fruit soup were minor uses made of all types of peaches.

D. Varieties of Peaches Used. The varieties of fresh peaches used by hotels, restaurants, cafeterias, and dormitories are shown by Chart X. In each group a certain percent of operations used no fresh peaches, a certain percent did not know the varieties they were using, and a certain percent of restaurants and hotels did not answer the question. The tabulations of these answers along with the total percents of those institutions reporting on varieties used appear in Table XI.

Chart X

VARIETAL USE OF FRESH PEACHES

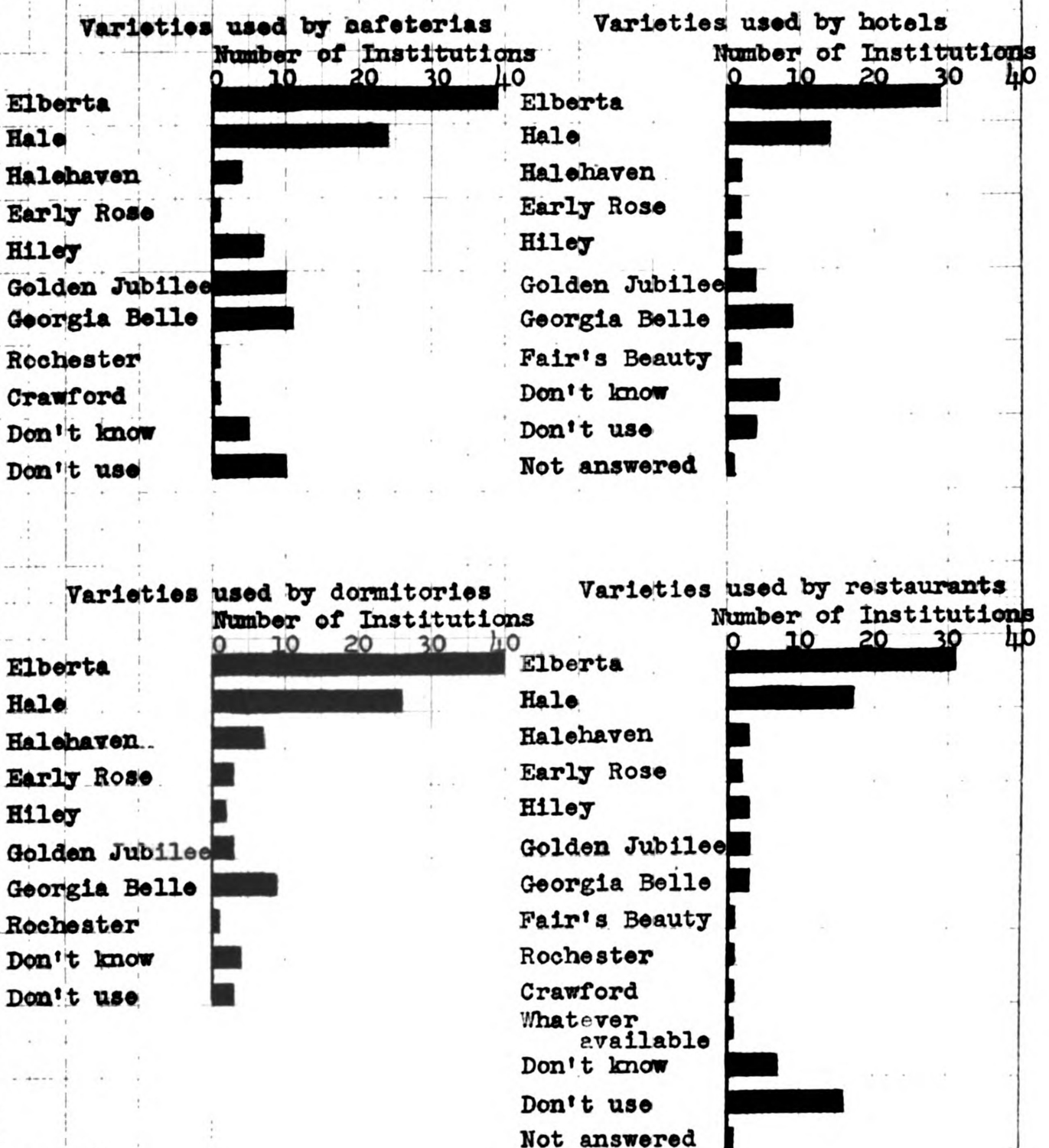


Table XI

Institutions Reporting on Varieties

of Fresh Peaches Purchased

Type of institution	Do not use %	Do not know %	No answer given %	Total percent reporting on varieties %
Hotels	9.8	17.1	2.4	70.7
Restaurants	29.1	12.7	1.8	56.4
Cafeterias	18.5	9.3	-	72.2
Dormitories	6.4	8.5	-	85.1
All institutions	16.7	11.7	1.0	70.6

Of the total 197 institutions reporting 16.7 percent did not use fresh peaches. Another 11.7 percent did not know the varieties that they were using, and 1.0 percent did not answer the question. For the remaining 70.6 percent reporting choice of varieties, Elberta led in popularity followed by Hale and Georgia Belle in every instance. Hotels used Golden Jubilee, Hiley, Early Rose, Halehaven, and Fair's Beauty, also, in lesser amounts than the first three mentioned. Restaurants used Halehaven, Hiley, Golden Jubilee, Early Rose, Fair's Beauty, Rochester, and Crawford in a few instances. Golden Jubilee, Hiley, and Hale proved quite popular with cafeterias and Early Rose, Rochester, and Crawford had one user in each case. In the following order, Halehaven, Golden Jubilee, Early Rose,

Hiley, and Rochester were used by dormitories.

Frozen peaches have not attained the popularity of fresh peaches. The varieties used by all four types of institutions are shown on Chart XI. From Table XII it can be seen that 43.9 percent of the hotels, 58.2 percent of the restaurants, 38.9 percent of the cafeterias, and 31.9 percent of the dormitories used no frozen peaches. For those remaining institutions reporting use of frozen peaches 24.4 percent of the hotels, 18.2 percent of the restaurants, 25.9 percent of the cafeterias, and 36.2 percent of the dormitories did not know the variety of peach used. One hotel did not answer the question.

Table XII

Institutions Reporting on Varieties of Frozen Peaches Purchased

Type of institution	Do not use %	Do not know %	No answer given %	Total percent reporting on varieties %
Hotels	43.9	24.4	2.4	29.3
Restaurants	58.2	18.2	-	23.6
Cafeterias	38.9	25.9	-	35.2
Dormitories	31.9	36.2	-	31.9
All institutions	43.6	25.9	.5	29.9

Of the total 197 institutions reporting 43.7 percent did not use any frozen peaches. 26.2 percent did not know the varieties that they were using, and .5 percent did not

Chart XI

VARIETAL USE OF FROZEN PEACHES

answer the question. For the 29.9 percent who did reply on varieties, Elberta was the most favored, with Hale as second choice. Golden Jubilee and Halehaven were next in popularity, and some few institutions reported using Crawford, Ideal, Rochester, and Georgia Belle.

Since almost all canned peaches are labelled clingstone, freestone, or home style, the question on the use of canned peach varieties asked the operator whether he used these types. The results received are shown on Chart XII. The large number of replies to this question showed that canned peaches were more generally used than fresh, frozen, or dried by all types of institutions.

From Table XIII it can be seen that a certain percent of operations did not use canned peaches; a certain percent did not know the type of canned peaches used; and in hotels and restaurants a few did not answer the question.

Table XIII

Institutions Reporting on Varieties of Canned Peaches Purchased

Type of institution	Do not use %	Do not know %	No answer given %	Total percent reporting on varieties %
Hotels	7.3	9.8	2.4	80.5
Restaurants	10.9	7.3	3.6	78.2
Cafeterias	5.6	5.6	-	88.8
Dormitories	-	2.1	-	97.9
All institutions	6.1	6.1	1.5	86.2

Chart XII

VARIETAL USE OF CANNED PEACHES

Varieties used by hotels

Varieties used by restaurants

Varieties used by cafeterias

Varieties used by dormitories

Table XIII shows that 6.1 percent of the total 197 institutions did not use canned peaches, 1.5 percent did not answer the question, and 5.7 percent did not know what variety they used. With the 86.2 percent of institutions using canned peaches home style peaches were the least popular. Hotels reported using clingstone and freestone peaches in equal amounts. Restaurants, cafeterias, and dormitories all reported using more freestone canned peaches than clingstone.

The data obtained from this question seem unreliable, since from one-half to four million cases of freestone peaches and ten to seventeen million cases of clingstone peaches have been processed each year during the past ten (32). This would naturally result in a greater use of clingstones. In addition, on the question asking the characteristics desired in canned peaches, most institutions wanted a peach with the greatest "eye appeal" (33), and the clingstone peach is that peach. It would appear that institution users are confused as to the meaning of the terms clingstone and freestone.

From Tables XI, XII, and XIII it can be observed that canned peaches are more generally used than frozen or fresh peaches, since 92.0 percent of the institutions reported using canned peaches, 83.0 percent fresh peaches, and 56.2 percent frozen peaches.

E. State and Area Consumption of Peaches. In order to find out whether peaches from a certain area or state were more often used than those from another area or state, the consumer was to tell from which state his chief supply of peaches came. Thirty-five did not reply to the question, and twenty-two did not know from which state their peaches came. These figures represent 28.9 percent of the 197 institutions surveyed. Many of the 71.1 percent replying did not answer the question correctly. The manner in which the question is stated is largely responsible for this error, since it asks only for the chief supply of peaches. Four questions should have been asked, one each on the chief supply of fresh, frozen, dried,and canned peaches. In some of the replies, institutions indicated that their canned peaches came from one state and their fresh peaches came from another state. Some answered that their early peaches came from one source, their late from another source. Some even reported that their chief supply came from John L. Sexton in Chicago, one of the leading wholesale grocery houses.

Chart XIII, in the pocket attached to the back cover of this volume, shows the answers received. In each instance, the state of the consumer was recorded in the state of the distributor. The number in parentheses following each state means that that many consumers from the state listed reported using peaches from that distribution point. For example: If an Iowa consumer reported using

peaches from California, Iowa was written in the State of California. If three Iowa consumers reported using peaches from California, Iowa (3) was written in the State of California. Upon examining the chart, one can readily see that California and Georgia were the leading states from which the 140 institutions reporting received their chief supply of peaches. In third place was Michigan; in fourth, Washington; in fifth, Colorado; in sixth, New York; and in seventh, Utah. The Northeastern section of the United States confined buying of peaches largely to its own area. Some few institutions got their early fresh peaches from Georgia and their canned peaches from California. The Midwestern Great Lakes region used its own peaches, also; however, a number of institutions in this area did use Georgia early fresh peaches and California canned. The Southern states went out of their own boundaries for canned peaches only. The Midwestern Plains states used almost all western peaches, either from Colorado or the Pacific states. North Dakota, Oklahoma, Kansas, Minnesota, Missouri, Arizona, and California were the only states west of the Mississippi River which reported using peaches from markets east of the Mississippi. This would, undoubtedly, indicate that western fruit is either preferred or more easily obtained. The Western states all used peaches from their own areas with the exception of one California and one Arizona user. From further examination of the answers,

it can be seen that most of the states, and particularly the chief peach producing states, used their own peaches. Michigan used California canned peaches, but one operator of the nine reporting from Michigan said that he used Georgia peaches only. In addition to Michigan, New York, West Virginia, Arkansas, Colorado, Utah, Washington, Oregon, Texas, and Georgia used their own peaches more often than they used out-of-state ones. Utah was noticeably self-sufficient. One person answering did not know from which state his supply came, but the six other Utah institutions used their own peaches. Pennsylvania, Ohio, Illinois, Virginia, West Virginia, North Carolina, Missouri, Tennessee, and Idaho depended more often on outside sources than on their own supply. From these results, it can be concluded that many states depend on California for canned peaches, Georgia for early season fresh peaches, and their own markets for their chief supply of later fresh peaches.

F. Desirable Characteristics of Peaches. Chart XIV indicates the characteristics desired in fresh peaches bought for institution use. In this question operators were to check all of the characteristics they desired. Thirty-four of the 197 institutions did not use fresh peaches or did not answer the question. One institution checked all characteristics. Since the characteristics were exact opposites in many instances, this answer was of no value. These thirty-five institutions composed 17.3

Chart XIV

CHARACTERISTICS PREFERRED IN FRESH PEACHES

percent of the total. Of the 82.7 percent who used fresh peaches, three-fourths or more preferred peaches that were well-formed and free from blemishes. Over two-thirds preferred, in addition to the above qualities, yellow-fleshed peaches with good skin color and more than two inches in diameter. Over one-half desired round, rosy-cheeked, plump, well filled-out and well ripened peaches. One-fourth expressed a preference for smooth-fleshed peaches. About one-eighth desired slightly immature peaches, and one-sixteenth wanted white, well flavored peaches with slightly ragged flesh. Less than one-sixteenth specified preference for non-fuzzy, juicy, flat shaped peaches with good odor and a fresh appearance. Other characteristics desired by this group were uniformity in size, firm-ripe, and less than two inches in diameter.

From these replies it can be concluded that the type of fresh peach desired by most operators is one that is round and over two inches in diameter; has a rosy cheek and good skin color; is free from blemishes, well formed, plump and well filled-out; has a smooth yellow flesh; and is well ripened.

The characteristics desired in canned peaches bought for institution consumption are listed in Chart XV. Sixteen of the 197 institutions, or 8.1 percent, did not use canned peaches or did not answer the question.

Of the 91.9 percent who used canned peaches, about

Chart XV

CHARACTERISTICS PREFERRED IN CANNED PEACHES

two-thirds preferred peaches that were free from blemishes and canned in a heavy syrup. Over one-half preferred well ripened, well formed, well filled-out, yellow-fleshed peaches that were more than two inches in diameter. About one-third expressed a preference for plump, round peaches and a light syrup. One-fourth desired smooth-fleshed peaches that were less than two inches in diameter. About one-eighth wanted peaches with slightly ragged flesh. More than one-sixteenth wanted slightly immature peaches, and less than one-sixteenth specified preference for flat shaped, white-fleshed, good flavored, and firm-textured fruit. One consumer in each instance from the 181 reporting specified the following factors: half peaches, resemblance to home canned, medium juice, well packed in cans, and uniformity in size.

From these data it can be concluded that the type of canned peaches desired by most operators is one that has a heavy syrup, is free from blemishes, is yellow-fleshed, well ripened, well formed, well filled-out, and is more than two inches in diameter.

G. Reasons for the Use of Peaches. The section on reasons for using or not using more fresh, frozen, dried, and canned peaches was constructed to allow the user to express his opinions on these factors. Since there were questions requiring a certain amount of thought and writing, the return was incomplete. Tables XIV and XV show the

percent of hotels, restaurants, cafeterias, and dormitories which gave no answer for using or for not using more fresh, frozen, dried, and canned peaches. It will be noted that in each instance the reports from dormitories were most complete. Hotels and restaurant returns, as a whole, were very incomplete. The replies were most complete for fresh and canned peaches because these two types were most often used by all types of institutions. Dried peaches were least often used. Hotels and restaurants, with the exception of one for each type of operation, did not use dried peaches.

Table XIV

Institutions Not Using or Not Answering Question on Reasons for Using Fresh, Frozen, Dried, or Canned Peaches

	Hotels %	Restaurants %	Cafeterias %	Dormitories %
No reply or did not use fresh peaches	29.3	41.8	37.0	17.0
No reply or did not use frozen peaches	61.0	67.3	51.9	36.2
No reply or did not use dried peaches	97.6	98.2	79.6	72.3
No reply or did not use canned peaches	36.6	38.2	22.2	2.1

Table XV

Institutions Not Using or Not Answering Question on Reasons for Not Using More Fresh, Frozen, Dried, or Canned Peaches

	Hotels %	Restaurants %	Cafeterias %	Dormitories %
No reply to "give reasons for not using more fresh peaches"	48.8	38.2	18.5	4.3
No reply to "give reasons for not using more frozen peaches"	58.6	61.8	68.5	8.1
No reply to "give reasons for not using more dried peaches"	68.3	78.2	40.7	25.5
No reply to "give reasons for not using more canned peaches"	82.9	81.8	61.1	36.2

The reasons for using fresh peaches are given in Table XVI. This is a summary of the answers received from twenty-nine hotels, thirty-two restaurants, thirty-three cafeterias, and thirty-nine dormitories. The factors are arranged in the order of incidence. From the answers given, it can be concluded that peaches are popular because of their flavor. Customer demand or approval is also a determining factor in their use, as is the desire on the part of the menu maker to offer variety. Since several operators mention that fresh peaches are economical in season, cost is a factor which is not overlooked. Some institutions are particularly

interested in giving the customer attractive food and give that as a reason for using fresh peaches. Less important factors, apparently, are availability, texture of fruit, special uses made of peaches, and ease in preparation. Dormitories alone reported that fresh peaches are more nutritious than frozen, canned, or dried. This, undoubtedly, indicates that dormitory food service directors are more nutrition conscious; however, it is doubtful whether the nutritious elements in fresh peaches are any greater than in frozen, canned, or dried, and, in addition, peaches of any type are not a valuable source of nutrients.

Table XVI

Reasons for Using Fresh Peaches

Reasons stated	Hotels %	Restaurants %	Cafeterias %	Dormitories %
Excellence of flavor or for flavor variety	24.1	40.6	30.3	53.8
Customer preference, demand, or approval	44.8	31.2	27.3	20.5
To add variety to menu	10.3	3.1	21.2	38.5
Economical in season	6.9	9.4	24.2	33.3
To give customer benefit of fresh fruit in season	10.3	12.5	27.3	7.7
Attractive food item	0	6.2	18.2	12.8
Ideal for pies, cakes, short cakes, and ice cream	17.2	15.6	3.0	2.6
No substitute for fresh fruit in season	10.3	6.2	3.0	7.7
Better texture than frozen, dried, or canned peaches	0	0	3.0	10.3
Good with cereals or as breakfast item	6.9	0	0	5.1
Live in peach state	0	3.1	3.0	5.1
A universal favorite when properly ripened	0	3.1	9.1	0
More nutritious than frozen, dried, or canned peaches	0	0	0	10.3
Use whenever available	6.9	0	3.0	0
Good to eat	3.4	0	0	0
Use as fruit plate	3.4	0	0	0
Very adaptable to many uses	0	0	3.0	0
Easily prepared	0	0	3.0	0
Sell well	0	0	3.0	0

Table XVII is a summary of the reasons for not using more fresh peaches. The factors are arranged in order of incidence, and the answers are those given by twenty-one hotels, thirty-four restaurants, forty-four cafeterias, and forty-five dormitories. The answers show that the most important reasons for not using more fresh peaches are: 1) labor required to peel and prepare them, 2) limited availability because of short season, 3) high cost, 4) the perishability, either from browning after peeling, spoilage, or variation in quality, and 5) high waste in peeling, particularly if labor is not dependable. A considerable number of operations used as many as their business demanded and logically felt that that was sufficient reason for not using more. Other reasons, not as often cited, but undoubtedly of vital importance were poor quality of fresh peaches purchased and unavailability of tree-ripened fruit.

Table XVII

Reasons for Not Using More Fresh Peaches

Reasons stated	Hotels %	Restaurants %	Cafeterias %	Dormitories %
Labor in peeling and preparing	23.8	20.6	36.4	44.4
Available for such a short season	23.8	32.4	18.2	37.8
High cost	19.0	11.8	25.0	31.1
Perishability; either spoilage or browning after preparation	9.5	0	18.2	24.4
Use as many as demanded	23.8	11.8	15.9	2.2
High waste	14.3	14.7	11.4	4.4
Poor supply	4.8	2.9	6.8	11.1
Variation in quality or poor quality	14.3	5.9	6.8	2.2
Inability to buy tree-ripened fruit	0	5.9	4.5	6.7
Too expensive when out of season	0	2.9	2.3	8.9
Hard to obtain	9.5	11.8	0	0
Not able to prepare in advance	4.8	5.9	2.3	0
No demand made by public	4.8	0	4.5	0
Lack of storage facilities	0	0	4.5	2.2
Impractical	4.8	0	0	0
Menu limits amount we can use	0	2.9	0	0

Sixteen hotels, eighteen restaurants, twenty-six cafeterias, and thirty dormitories reported using frozen peaches. The reasons they gave for using this type of fruit are given in Table XVIII and are arranged in order of incidence. The answers indicate that the chief reasons for using frozen peaches are: 1) they are easy to handle and prepare; 2) they are pleasing in flavor; 3) they are economical; 4) they have little or no waste; 5) they are low in labor cost; 6) they offer menu variety; 7) they are easily stored; 8) they are consistent in quality; and 9) they are always available.

Table XVIII

Reasons for Using Frozen Peaches

Reasons stated	Hotels %	Restaurants %	Cafeterias %	Dormitories %
Ease in handling and preparing	25.0	16.7	23.1	36.7
Good flavor	12.5	16.7	34.6	26.7
Economical	18.8	27.8	26.9	16.7
Little or no waste	31.3	11.1	23.1	16.7
Low labor cost	25.0	11.1	19.2	20.0
Very good substitute for fresh peaches	12.5	22.2	3.8	30.0
Offer menu variety	12.5	5.6	15.4	23.3
Very good for pies	18.8	16.7	7.7	6.7
Easily stored	25.0	11.1	7.7	0
Consistency in quality of pack	6.3	11.1	3.8	10.0
Always available	0	5.6	15.4	6.7
A good product	0	0	11.5	6.7
All ready to use	0	0	15.4	3.3
Popular with customers	6.3	0	11.5	3.3
Attractive food	0	0	3.8	10.0
Use only for pies	6.3	0	7.7	0
Use when fresh peaches are not available	0	11.1	0	0
Good item for portion control	0	0	3.8	3.3
High in vitamin content	0	0	0	3.3

Seventeen hotels, twenty-one restaurants, thirty-seven cafeterias, and thirty-eight dormitories gave reasons for not using more frozen peaches. Table XIX is a summary of those institutions reporting. The reasons stated are listed in order of incidence. The chief reason for not using more frozen peaches is the rapid discoloration of this product. Other important reasons given are: 1) they are too expensive; 2) our operation lacks refrigeration space; 3) many packs are of poor quality; 4) flavor is lost upon thawing; 5) they are not popular with customers; and 6) the texture is poor.

Table XIX

Reasons for Not Using More Frozen Peaches

Reasons stated	Hotels %	Restaurants %	Cafeterias %	Dormitories %
Subject to rapid discoloration	29.4	33.3	45.9	31.6
Too expensive	5.9	14.3	32.4	39.5
Lack of refrigeration space	5.9	9.5	27.0	18.4
Use as many as we can sell	17.7	19.0	10.8	7.9
Many packs are of poor quality	0	14.3	5.4	15.8
Lose flavor when thawed	11.8	9.5	5.4	10.5
Not popular with customers	11.8	23.8	5.4	0
Poor texture	0	9.5	8.1	5.3
Canned peaches more satisfactory for our type	5.9	0	5.4	7.9
Hard to obtain	5.9	0	2.7	5.3
Limited menu does not allow for much use of frozen peaches	0	0	2.7	2.6
Menu variety large thus limiting use of any one item	5.9	0	0	0
Time factor involved in defrosting	0	4.8	0	0
Off flavor	0	0	2.7	0
Customers prefer fresh peaches	5.9	0	0	0
Tasteless	5.9	0	0	0
Impractical	5.9	0	0	0
Not as attractive as fresh or canned peaches	5.9	0	0	0

One hotel, one restaurant, eleven cafeterias, and thirteen dormitories gave reasons for using dried peaches. The summary of the answers received is shown in Table XX. The factors are arranged in the order of incidence. The one hotel reporting used dried peaches for pie. The one restaurant reporting used dried peaches because they were cheaper for upside down cakes, steamed puddings, and Bavarian desserts. The dormitories and cafeterias reporting used dried peaches because of their low cost, the ease with which they can be stored, and their adaptability for pies and certain other types of desserts.

Table XX

Reasons for Using Dried Peaches

Reasons stated	Hotels %	Restaurants %	Cafeterias %	Dormitories %
To provide menu variety	0	0	45.5	53.8
Low cost	0	0	27.3	30.8
Popular for pies	100.0	0	9.1	0
Cheaper for upside down cakes, steamed puddings, and Bavarian desserts	0	100.0	0	7.4
Store well	0	0	9.1	7.4
Customer demand	0	0	9.1	0
Fancy grades very acceptable	0	0	9.1	0
Easier to use in fruit rolls	0	0	9.1	0
Good flavor	0	0	9.1	.0
Good food value	0	0	0	7.4
Good for breakfast fruit	0	0	0	7.4
Easy to prepare	0	0	0	7.4
Year around availability	0	0	0	7.4

Thirteen hotels, twelve restaurants, thirty-two cafeterias, and thirty-five dormitories gave their reasons for not using more dried peaches. The summary of the answers received is given in Table XXI. The reasons are arranged in order of incidence. The chief reasons for not using more dried peaches were: 1) customers do not like them; 2) they are not an attractive food; 3) the flavor is poor; 4) other kinds of peaches are more popular or palatable; 5) they are expensive; and 6) they require time to prepare. Another interesting objection was that the peeling is offensive. Apparently the operators who objected to the peeling are unaware that dried peaches which are practically peeled are obtainable.

Table XXI

Reasons for Not Using More Dried Peaches

Reasons stated	Hotels %	Restaurants %	Cafeterias %	Dormitories %
Not well liked by customers	23.1	8.3	37.5	45.7
Not in demand or do not sell	53.8	25.0	34.4	2.9
Not an attractive food	7.7	25.0	12.5	8.6
Poor flavor	23.1	25.0	0	8.6
Other kinds of peaches better liked and more palatable	0	8.3	6.3	17.1
Do not like them	0	0	6.3	8.6
Expensive	7.7	0	6.3	5.7
Poor quality	0	8.3	6.3	2.9
Time required to prepare	7.7	16.7	0	2.9
Not available	0	0	6.3	2.9
Not adaptable to our type institution	0	16.7	3.1	0
Use too limited	7.7	0	3.1	2.9
Peeling very objectionable	7.7	0	0	2.9
Use all that will sell	0	8.3	0	2.9
Poor for pastry	0	0	3.1	0
Vitamins lost during preparation	7.7	0	0	0
Short season	0	0	3.1	0
Hard to keep during summer season	0	0	0	2.9
No storage space	0	0	3.1	0

Twenty-six hotels, thirty-four restaurants, forty-two cafeterias, and forty-six dormitories gave their answers for using canned peaches. These are summarized in Table XXII and are arranged in order of incidence. The chief reasons given were: 1) they are easy to use and always ready; 2) customers like canned peaches; 3) they are economical; 4) the quality of the pack is uniform; 5) they are attractive; 6) they are available the year around; 7) the flavor is good; 8) they make attractive salads; 9) there is little or no waste; 10) they are easy to store; 11) cost and portion control are easily maintained with canned peaches; and 12) they add variety to the menu.

Table XXII

Reasons for Using Canned Peaches

Reasons stated	Hotels %	Restaurants %	Cafeterias %	Dormitories %
Easy to use and always ready to use	34.6	32.4	47.6	39.1
Customers like this fruit	11.5	8.8	26.2	43.5
Economical	11.5	11.8	23.8	23.9
Uniformly good in quality	23.1	26.5	16.7	10.9
Attractive food item	7.7	11.8	21.4	19.6
Available all the year around	15.4	11.8	11.9	23.9
Very versatile food item	19.2	5.9	11.9	17.4
Good flavor	3.8	8.8	11.9	19.6
Make good attractive salads	0	14.7	19.0	10.9
Little or no waste	11.5	2.9	4.8	10.9
Easy to store	0	5.9	7.1	13.0
Easy to maintain cost and portion control with canned peaches	0	8.8	9.5	4.3
Good for baking or desserts	0	2.9	2.4	10.9
Minimum of labor required	0	0	2.4	13.0
Use when fresh peaches are not available	7.7	5.9	0	2.2
Add variety to menu	0	2.9	7.1	2.2
Favorite canned fruit with customers	0	0	7.1	2.2

Table XXII (cont.)

Reasons stated	Hotels %	Restaurants %	Cafeterias %	Dormitories %
Holding quality good	0	5.9	0	2.2
Good substitute for fresh peaches	3.8	2.9	0	2.2
Good breakfast fruit	0	0	2.4	2.2
Easy to inventory	3.8	0	0	2.2
Sugar saver	0	0	2.4	0
Nutritious food	0	0	0	2.2
Good emergency item	0	0	2.4	0
Use at guest's request	3.8	0	0	0

Seven hotels, ten restaurants, twenty-one cafeterias, and thirty dormitories gave reasons for not using more canned peaches. Table XXIII summarizes the reasons given, and they are arranged in order of incidence. The most important reason appeared to be that the operations reporting were using as many canned peaches as they possibly could. Another important reason, particularly for dormitories, was that in order to maintain variety on the menu, the use of canned peaches could not be over done. The other answers to this question were scattered and are the replies of only two or three operations in each instance.

Table XXIII

Reasons for Not Using More Canned Peaches

Reasons stated	Hotels %	Restaurants %	Cafeterias %	Dormitories %
Use all that our type institution demands	71.4	50.0	47.6	30.0
For menu variety	0	0	19.0	46.7
Not popular with customers	28.6	0	4.8	0
Do not make as good pies as fresh or frozen peaches	0	20.0	4.8	0
Prefer frozen peaches for most uses	0	10.0	0	6.7
Expensive	0	0	4.8	6.7
For variety we like to use fresh or frozen peaches	0	0	0	6.7
Higher in price than frozen peaches	0	0	9.5	0
Not as tasty as frozen peaches	14.3	0	4.8	0
Limited menu restricts use	0	10.0	0	3.3
Unnaturalness of fruit syrup objectionable	0	10.0	0	0
Not always available	0	0	4.8	0
Prefer fresh fruit in season	0	0	0	3.3
Amount allowed on inventory insufficient	0	0	0	3.3
Prefer home canned peaches	0	0	0	3.3

In summarizing, it can be concluded: 1) that institutions are primarily interested in giving the customer food he will like; 2) that the flavor of fresh, frozen, and canned peaches is well liked by most individuals; 3) that peaches are not too expensive an item to carry on the menu; 4) that fresh and canned peaches are used because they are an attractive food; 5) that institutions use all types of peaches in different ways to obtain menu variety; 6) that the labor required to prepare any food is a major consideration for most food service operators; 7) that institutions like foods that store well, inventory easily, and lend themselves to portion control; and 8) that institutions like food items that are consistent in quality. It is apparent that some institutions need educating on the use of dried peaches. Tests have shown that customer acceptance of dried peaches is good if they are properly prepared.

H. Comparison of Peaches With Other Fruits. In the question on fruits that are competitors of peaches, operators were to check the fruits that were the strongest competitors and indicate by the numerals 1, 2, 3, et cetera, the order in which they compete. A number of operators checked the fruits listed; several wrote in numbers up to sixteen, giving all the fruits listed a rating. Since a fruit in sixteenth place or in tenth place, even, would not be a strong competitor of peaches, the seven highest were all that were assigned the actual rating given. Number nine was assigned

to all fruits checked but not numbered. Zero was assigned to all numbers listed as eight or over.

Thirteen institutions, or 6.6 percent, did not give any answer to this question. These thirteen institutions included two hotels, nine restaurants, and two cafeterias. A count was made of all the ratings given each fruit, the ratings being weighted. A one was given a value of ten; a two, nine; a three, eight; et cetera. The nines were valued at two and the zeros one. Then these weighted ratings were averaged. Results for each type of institution were obtained, as well as for the total group. Table XXIV is a summary of the results. The fruits are listed according to the average rating received, the fruits appearing first on the lists being the greatest competitors. It can be noted from a study of these tables, that apples, oranges, bananas, and grapefruit appear to be the chief competitors of peaches; however, it cannot be concluded that any of these fruits actually compete with peaches. Good fresh apples and fresh grapefruit are almost absent from the markets when the fresh peach crop appears; hence these fruits would not compete with the fresh item. Canned, dried, and frozen peaches are obtainable at practically all times, but other fruits would only compete with these as one fruit competes with another regardless of the kind of fruit, and apples, citrus fruit, or bananas would not be true competitors in that none of them yield a dish which could be substituted for the peach dish and give a product similar to it.

Table XXIV

Fruits in Order of Preference

All institutions	Hotels (39)	Restaurants (46)	Cafeterias (52)	Dormitories (47)
Apples	Oranges	Apples	Apples	Apples
Oranges	Grapefruit	Oranges	Bananas	Oranges
Bananas	Apples	Cherries	Grapefruit	Bananas
Grapefruit	Bananas	Straw-berries	Pineapples	Grapefruit
Pears	Melons	Pineapples	Oranges	Pears
Pineapples	Straw-berries	Grapefruit	Straw-berries	Apricots
Straw-berries	Apricots	Pears	Pears	Pineapples
Cherries	Cherries	Bananas	Cherries	Straw-berries
Apricots	Pears	Raspberries	Apricots	Cherries
Melons	Raspberries	Melons	Melons	Plums
Raspberries	Pineapples	Apricots	Raspberries	Grapes
Plums	Avocadoes	Plums	Grapes	Melons
Grapes	Grapes*	Avocadoes*	Plums	Raspberries
Avocadoes	Plums*	Blue-berries*	Avocadoes*	Avocadoes*
Nectarines*	Nectarines*	Grapes*	Nectarines*	Nectarines*
Blue-berries*	Figs*	Boysen-berries*	Papayas*	Mangoes*
Boysen-berries*	Mangoes*	Nectarines*	Boysen-berries*	
Papayas*	Blue-berries*	Mangoes*	Mangoes*	
Figs*			Blue-berries*	
Mangoes*				

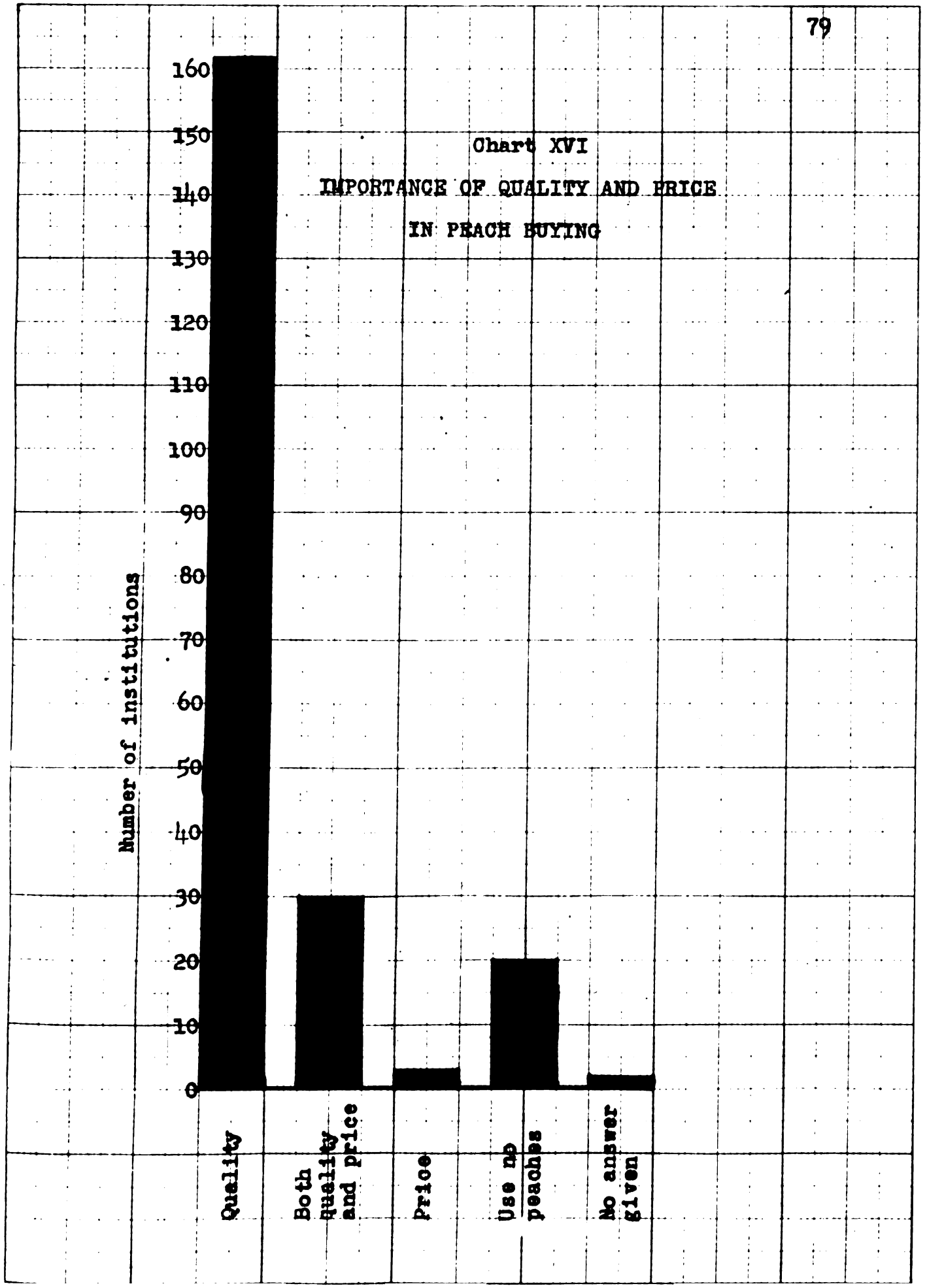
*Listed as competitors by two or three institutions reporting.

I. Relation of Price to the Purchase of Peaches.

To the question as to whether price or quality had the greater influence on the selection of peaches, 185 institutions or 94.0 percent replied. Of the 185 replies 162, or 87.5 percent, desired quality in preference to price. Only 1.6 percent checked price, and 10.8 percent wanted both quality and price. These results would indicate that almost all institutions were far more interested in getting good quality peaches than in getting an inexpensive food item. (Chart XVI.)

Chart XVI

IMPORTANCE OF QUALITY AND PRICE IN PEACH BUYING



V SUMMARY

The findings of this study when summarized indicate that:

1. The more food service units within a given business the more peaches used as compared with the single unit business; the exception to this was the multiple unit with many small banquet rooms.

2. Some correlation existed between the number of persons served per day by an institution and the quantity of peaches used per year by that institution.

3. The price charged per meal showed little correlation with the quantity of peaches used.

4. Almost all institutions were interested in giving the customer food that he would like, and since canned, fresh, and frozen peaches are all well liked, most institutions used them as much as the customer demand would allow.

5. Institutions were, in like manner, interested in food items that store well, inventory easily, lend themselves to portion control, do not require great labor expenditure, are consistent in quality, are practical from the standpoint of cost, and are attractive in appearance. Canned peaches appeared to meet these requirements most nearly with fresh, frozen, and dried preferred in the order given.

6. Fresh peaches were used quite generally from May through October. The peak of fresh peach use came in August and September. This undoubtedly indicates that the tendency of institutions is to use food items during the season when these items are most plentiful.

7. Frozen peaches were used from January through December. The heaviest use of these came during the winter months, and the lightest use came at the peak of the fresh peach season.

8. Dried peaches were used by a very small percent of the institutions reporting. Low cost operations used this type more often than moderate or high cost operations.

9. Canned peaches were used more than any other type of peach, but there was a drop in their use during the fresh peach season.

10. States tended to use peaches from their own state or from their own area. However some states far removed from Georgia and California reported using Georgia peaches very early in the season and California canned peaches at other times.

11. The Elberta fresh peach was the one most often preferred by the institutions questioned. Hale and Georgia Belle were in second and third places.

12. The Elberta was, also, the most popular frozen peach with Hale, Golden Jubilee, and Halehaven in the next ranks.

13. Freestone canned peaches appeared to take preference over clingstone canned peaches, but the descriptions given by the reporting institutions definitely described a clingstone peach. This contradiction, in all probability, indicates that operators are confusing the terms freestone and clingstone.

14. The characteristics desired in fresh peaches, by most institutions, were: a good sized peach, rich in color of skin and flesh and well ripened.

15. The characteristics that most institutions desired in canned peaches were:heavy syrup, large size, yellow flesh, good shape, and well ripened. Hence appearance tends to take precedence over taste with institution operators. Undoubtedly the general public is responsible for this operator preference.

16. Quality in peaches was favored over cost of peaches by a large percent of the institutions.

17. Apples, oranges, bananas, and grapefruit appeared to be the chief competitors of peaches but it is doubtful if these actually do compete with the peach, since these yield products which are very dissimilar in most instances.

VI CONCLUSIONS

Although this questionnaire was wide in scope and lacking in specific information, it would appear from the results that most institutions find peaches a versatile fruit to serve. Almost all institutions replying served peaches of all types in many ways. The writer expresses some doubt over the high percentage of institutions which reported using all types of peaches for salad. This might be due to the operator's misunderstanding of the actual definition of salad and hence reporting the use of peaches as a salad when the food item served was really a fruit cup. The canned peach appeared to be favored above the other types. There is need for a great deal more research on improvement in handling fresh peaches so that they reach the institution consumer in the best possible condition. Although a number of surveys have been made on what the wholesale and retail grocer and the individual consumer desire in fresh peaches, the institution operator apparently has not been considered to any great extent. Frozen peaches were well liked particularly for pies, but the browning factor of frozen peaches tended to cause some unfavorable reaction to them. Although research to prevent browning is being done, apparently there is much yet to be accomplished in this area before institutions will put frozen peaches to

their maximum use. Dried peaches were not well liked because of customer reaction against them. The writer feels that there is need for development of good, interesting, recipes and information on proper use of dried peaches that will build up customer acceptance of this item.

VII LITERATURE CITED

1. Blake, M. A.
   1938 Evaluation of Varieties of Peaches in the Northeast. New York Agricultural Experiment Station Unnumbered Bulletin.

2. Cravens, M. E. Jr. and Cardinell, H. A.
   1949 An Appraisal of the Market Quality of Michigan Peaches (Progress Report). The Quarterly Bulletin, 31 (4): 472-481.

3. Cravens, M. E. Jr. and Mauch, Arthur
   1948 Results of Experiments on Marketing Riper Peaches. The Quarterly Bulletin, 30 (4): 387-406.

4. Cravens, M. E. Jr. and Paul, Pauline
   1948 Degree of Ripeness at Harvest and Peach Quality After Holding. The Quarterly Bulletin, 30 (4): 383-386.

5. Cullinan, F. P.
   1945 Peaches - from Coolie to College. Peach Annual: 37-41.

6. Cullinan, F. P.
   1946 Peach Production Problems. Peach Annual: 27-31.

7. Dorsey, M. J.
   1946 Peaches - and the Grower. Peach Annual: 19-21.

8. Durbin, Marvin
   1948 Peach Variety Notes 1948. Tennessee State Department of Agriculture, unnumbered lithoprinted publication, 4 pages.

9. Fawcett, K. I. and Burkholder, C. L.
   1947 Improving the Bushel Basket as a Peach Container. Peach Annual: 7-9.

10. French, Earl R.
    1946 The Columbus and Michigan Experiments. Peach Annual: 21.

11. Gensinger, E. D.
1947 Planting to Reduce That Gamble. Peach Annual: 22-23.

12. Hauck, C. W.
1947 1946 Experiments in Packaging and Transportation of Peaches. Peach Annual: 11-15.

13. Heckman, John H.
1947 Marketing Colorado Boxed Peaches in the Twin Cities -- 1947. United States Department of Agriculture, lithoprinted Miscellaneous Report III, 21 pages.

14. Hedrick, U. P.
1917 The Peaches of New York. J. B. Lyon Company, Albany. 541 pp.

15. Hedrick, U. P.
1949 What's New in Fruit Varieties. American Fruit Grower, 69 (1): 16.

16. Horticultural Products Research Laboratory.
1947 Peach Varieties List. South Carolina Experiment Station, Mimeographed publication, 3 pages.

17. Johnston, Stanley
1941 Peach Culture in Michigan. Michigan State College Agricultural Experiment Station Circular Bulletin 177, pp. 15-18.

18. Johnston, Stanley
1945 The Peach Variety Situation. Peach Annual: 13-15.

19. Logan, Paul P.
1947 Purchasing, Storage and Use of Fresh Fruits and Vegetables. National Restaurant News Bulletin, 28 (8): 13-16.

20. Merrill, Grant
1947 Tree Ripe - Why and How We Do It. Peach Annual: 24-25.

21. Miller, Carroll R.
1946 Conference Actions Taken. Peach Annual: 7.

22. Morrison, Charles F.
1946 Cheaper and Better Packages - From the Growers' Viewpoint. Peach Annual: 15, 19.

23. Paul, Pauline and Cravens, M. E. Jr.
1949 Storage of Peaches of Different Degrees of Ripeness. The Quarterly Bulletin, 31 (4): 402-405.

24. Philp, Guy L. and Davis, Luther D.
1946 Peach and Nectarine Growing in California. California Agricultural Extension Service Circular 98.

25. Ramsland, Dorothy E. A.
1947 An Evaluation of Dried, Canned and Frozen Peaches for Institution Use. Unpublished Master's Thesis, Michigan State College, East Lansing, Michigan. 62.

26. Selby, J. H.
1947 Marketing the Michigan Peach Crop. Market News Service on Fruits and Vegetables. United States Department of Agriculture, unnumbered mimeographed publication, 8 pages.

27. State Horticultural Society of Michigan
1947 Annual Report of the Secretary. Franklin De Kleine Company, Lansing. pp. 103-107.

28. Taylor, Porter R.
1945 The Present Peach Picture. Peach Annual: 17-19.

29. United States Bureau of Agricultural Economics
1949 Crops and Markets. United States Department of Agriculture, 26: 39.

30. United States Bureau of Agricultural Economics
1949 Crop Report for Michigan. United States Department of Agriculture. 4-8.

31. Van Blaricom, L. O.
1947 Peach Processing in the Southeast. Peach Annual: 25-27.

32. Weinberger, John H.
1949 Recent Peach Introductions. American Fruit Grower, 69 (1): 20, 46-47.

33. Woodruff, J. G. and Bailey, J. E.
1931 Peach Varieties and Culture. Georgia Experiment Station Bulletin 95.

34. Yarnell, S. H.
1945 Notes on Peach Variety Situation in Texas ... Two Freestone Groups Ripening Before Elberta. Southern Florist and Nurseryman. Reprint October, 1945.

VII APPENDIX

COPIED FROM:

UNITED STATES DEPARTMENT OF AGRICULTURE
Miscellaneous Publication No. 190

U.S. STANDARDS FOR PEACHES (1933)*
(Effective April 22, 1933)

Note: Numbers and letters in parentheses following grade terms indicate where such terms are defined on pages 114 to 115 inclusive, under Definitions of Terms.

GRADES

U. S. Fancy shall consist of peaches of one variety which are mature (1) but not soft or overripe, well formed (2); free from decay, bacterial spot, cuts which are not healed, growth cracks, hail injury, scab, scale, split pits, worms, worm holes, leaf or limb rub injury (3); and from damage (4) caused by bruises, dirt or other foreign material, other disease, insects or mechanical or other means (4).

Each peach shall meet its varietal color requirements as follows, which is expressed in terms of percentage of the fruit surface showing red color, characteristic of the variety

50 Percent or more

Carman	Hiley	St. John
Early Crawford	Mayflower	Triumph
Early Rose	Red Bird (early Wheeler)	Tuscan Cling

Other similar varieties

25 Percent or more

Belle of Georgia	Jubilee	Paloro
Cumberland	Late Crawford	Stump
Elberta	Orange Cling	Uneeda
J. H. Hale		

Other similar varieties

15 Percent or more

Bilyeau	Greensboro	Salwey
Champion	Levy	Slappy
Eclipse	Phillips Cling	Smock

Other similar varieties

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of the

*This is a reissue of US Standards for Peaches (effective April 22, 1933) formerly issued by the Bureau of Agricultural Economics. No change is made in the text of the Standards.

peaches in any package** may be below the requirements of this grade other than for color but not more than one-half of this tolerance, or 5 percent, shall be allowed for defects causing serious damage (5) and not more than one-fifth of this amount, or 1 percent, shall be allowed for decay at shipping point. An additional tolerance of 2 percent shall be allowed for soft or overripe peaches or decay enroute or at destination. In addition, not more than 10 percent, by count, of the fruit in any package** may be below the specified color requirement.

U. S. Extra No. 1 Any lot may be designated "U. S. Extra No. 1" when the peaches meet the requirements of U. S. No. 1 grade provided that not less than 50 percent, by count, of the peaches in any lot also meet the color requirements of U. S. Fancy Grade.

In order to allow for variations incident to proper grading and handling, not more than 10 percent by count, of the peaches in any package** may be below the requirements of the No. 1 grade but not more than one-half of this tolerance, or 5 percent, shall be allowed for defects causing serious damage (5) and not more than one-fifth of this amount, or 1 percent, shall be allowed for decay at shipping point. An additional tolerance of 2 percent shall be allowed for soft or overripe peaches or decay enroute or at destination. No part of any tolerance shall be used to reduce the percentage of peaches with U. S. Fancy color required for the lot as a whole but individual packages may have not less than 40 percent which meets the color requirements of U. S. Fancy grade provided that the entire lot averages not less than 50 percent. However, the 3 percent total tolerance for decay enroute or at destination may be used to reduce this percentage provided there is no evidence that the decayed fruit did not meet the color requirements of U. S. Fancy at time of packing.

U. S. No. 1 shall consist of peaches of one variety which are mature (1) but not soft or overripe, well formed (2), free from decay, growth cracks, cuts which are not healed, worms,

---

** APPLICATION OF TOLERANCES - The tolerances specified for the various grades are placed on a package basis. However, any lot of peaches shall be considered as meeting the requirements of a specified grade if the entire lot averages within the tolerances specified, provided that the defects in any package based on sample inspection do not exceed the following amounts: For a specified tolerance of 10 percent not more than one and one-half times the tolerance shall be allowed for any one package. For specified tolerances of 5 percent or less not more than double the tolerance shall be allowed for any one package.

worm holes, and from damage (4) caused by bruises, dirt, or other foreign materials, bacterial spot (4a), scab (4b), scale (4c), hail injury (4d), leaf or limb rubs (4e), split pits (4f), other disease, insects or mechanical or other means (4).

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of the peaches in any package ** may be below the requirements of this grade but not more than one-half of this tolerance, or 5 percent, shall be allowed for defects causing serious damage (5) and not more than one-fifth of this amount or 1 percent, shall be allowed for decay at shipping point. An additional tolerance of 2 percent shall be allowed for soft or overripe peaches or decay enroute or at destination.

U. S. No. 2 shall consist of peaches of one variety which are mature (1) but not soft or overripe, not badly misshapen (6), free from decay, cuts which are not healed, worms, worm holes, and from serious damage (5) caused by bruises, dirt or other foreign materials, bacterial spot (5a), scab (5b), scale (5c), growth cracks (5d), hail injury (5e), leaf or limb rubs (5f), split pits (5g), other disease, insects, or mechanical or other means (5).

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of the peaches in any package** may be below the requirements of this grade, but not more than one-tenth of this tolerance, or 1 percent, shall be allowed for decay at shipping point. An additional tolerance of 2 percent shall be allowed for soft or overripe peaches or decay enroute or at destination.

Unclassified shall consist of peaches which are not graded in conformity with any of the foregoing grades.

MARKING REQUIREMENTS FOR SIZE

The minimum size, numerical count, or description of pack of the peaches in any package shall be plainly stenciled, labeled, or otherwise indicated on the package. Minimum size refers to the "diameter" (as hereinafter defined) of the smallest peach and shall be stated in terms of whole inches, whole and half inches, whole and quarter inches, or whole and eighth inches, as 2 inches minimum, 2-1/4 inches minimum, 1-7/8 inches minimum, etc., in accordance with the facts.

"Diameter" means the shortest distance measured through the center of the peach at right angles to a line running from the stem to the blossom end.

In order to allow for variations incident to proper sizing, not more than 10 percent, by count, of the peaches in any package** may be below the specified minimum size.

Description of pack refers especially to peaches packed in six-basket carriers. When used, it shall include the arrangement of the peaches in each layer in the baskets and also the total number of layers in the carrier and shall be indicated as follows: 2-1, 6 layers; 2-2, 6 layers; 3-2, 6 layers, in accordance with the facts.

STANDARD PACK

Each package shall be packed so that the peaches in the shown face shall be reasonably representative in size, color and quality of the contents of the package.

Six-basket carriers.-Peaches packed in the standard six-basket carrier shall be reasonably uniform in size and arranged in the individual baskets according to the approved and recognized methods.

	Bottom layer	Middle layer	Top layer	Total basket	Total carrier
2x1 - 6 layer	8	7	8	23	138
2x1 - 6 layer	9	9	9	27	162
2x2 - 6 layer	10	10	10	30	180
2x2 - 6 layer	10	12	12	34	204
3x2 - 6 layer	13	15	15	43	258

All baskets shall be well filled and packed with sufficient bulge to prevent any appreciable movement after lidding but the contents shall not show excessive or unnecessary bruising because of over filled packages.

Baskets.-Peaches packed in bushel or half-bushel round bottom baskets and tub baskets shall be ring faced and tightly packed with sufficient bulge to prevent any appreciable movement of the peaches within the package when lidded.

Boxes.-Peaches packed in the standard western boxes shall be reasonably uniform in size and arranged in the packages according to the approved and recognized methods. Each wrapped peach shall be fairly well enclosed by its individual wrapper. All packages shall be well filled and tightly packed but the contents shall not show excessive or unnecessary bruising because of overfilled packages. The number of peaches in the box shall not vary more than 4 from the number indicated on the box.

In order to allow for variations incident to proper packing, not more than 10 percent of the packages in any lot may not meet these requirements.

DEFINITIONS OF TERMS

AS used in these grades:

1. "Mature" means that the peach has reached the stage of growth which will insure a proper completion of the ripening process.

2. "Well formed" means that the peach has the shape characteristic of the variety.

3. "Leaf or limb rub injury" means that the scarring is not smooth, not light colored, or aggregates more than 1/4 inch in diameter.

4. "Damage" means any injury or defect which materially affects the appearance, edible or shipping quality of the peach. Any one of the following defects, or any combination thereof, the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as damage:

(a) Bacterial spot when cracked, or when aggregating more than 3/8 inch in diameter.

(b) Scab spots when cracked, or when aggregating more than 3/8 inch in diameter.

(c) Scale when concentrated, or when scattered and aggregating more than 1/4 inch in diameter.

(d) Hail injury which is unhealed, or deep, or when aggregating more than 1/4 inch in diameter.

(e) Leaf or limb rubs when not smooth, or when not light colored, or when aggregating more than 1/2 inch in diameter.

(f) Split pit when causing any unhealed crack, or when causing any crack which is readily apparent, or when affecting shape to the extent that fruit is not well formed.

5. "Serious damage" means any injury or defect which seriously affects the appearance, edible, or shipping quality of the peach. Any one of the following defects, or any combination thereof, the seriousness of which exceeds the maximum allowed for any one defect shall be considered as serious damage:

(a) Bacterial spot when any cracks are not well healed, or when aggregating more than 3/4 inch in diameter.

(b) Scab spots when cracked, or when healed and aggregating more than one inch in diameter.

(c) Scale when aggregating more than 1/2 inch in diameter.

(d) Growth cracks when unhealed, or more than 1/2 inch in length.

(e) Hail injury when unhealed, or shallow hail injury when aggregating more than 3/4 inch in diameter, or deep hail injury which seriously deforms the fruit or which aggregates more than 1/2 inch in diameter.

(f) Leaf or limb rubs when smooth and light colored and aggregating more than 1-1/2 inches in diameter, or dark or slightly rough and barklike scars aggregating more than 3/4 inch in diameter.

(g) Split pit when causing any unhealed crack, or when healed and aggregating more than 1/2 inch in length including any part of the crack which may be covered by the stem.

(h) Soft or overripe peaches.

(i) Wormy fruit or worm holes.

6. "Badly misshapen" means that the peach is so decidedly deformed that its appearance is seriously affected.

Issued April 22, 1933
Reissued February 4, 1946
Signed by C W Kitchen
Assistant Administrator
Production and Marketing Administration.

Copied Michigan Department of Agriculture August 10, 1949

MICHIGAN STATE COLLEGE

EAST LANSING

SCHOOL OF HOME ECONOMICS
DEPARTMENT OF INSTITUTION
ADMINISTRATION

Dear

In order to complete my work on a Master's degree at Michigan State College, I am making a survey of the use of peaches in institutions throughout the United States, and I would very much appreciate your help in this survey.

Enclosed with this letter is a questionnaire which I would like to have you answer and return to me as soon as possible.

Thank you, in advance, for this consideration.

Yours sincerely,

Shirley Allen

SCHOOL OF HOME ECONOMICS
MICHIGAN STATE COLLEGE
Department of Institution Administration

Name of Business:_____

Type of Business: Please check
Hotel ☐ Restaurant ☐
Cafeteria ☐ Dormitory ☐

Number and Type of Food Service Units:
Dining Rooms_____ Counter Service_____
Coffee Shop_____ Catering Service____
Others_____

Type of Service: Please check
Self-service or Cafeteria ☐ Waiters or Waitress ☐

Training of Manager:
Grade school ☐ High School ☐
College ☐
Major Field: Hotel Administration_____
Home Economics_____ Other_____
Experience: Number of years_____
Type of experience_____

Approximate Number of Meals Served Per Day:
Breakfast_____ Lunch_____ Dinner_____
Total_____
If unable to give details please ESTIMATE total.

What is your average meal check?
Breakfast_____ Lunch_____ Dinner_____
OR
What do your patrons pay per week? _____

SCHOOL OF HOME ECONOMICS
MICHIGAN STATE COLLEGE

Page 2

USE OF PEACHES:

Average Quantity Used:	ESTIMATED PER WEEK	ESTIMATED POUNDS WASTE	ESTIMATED NUMBER OF WEEKS USED YEARLY
Fresh peaches (bu.)	_____	_____	_____
Frozen peaches (lbs.)	_____	_____	_____
Dried peaches (lbs.)	_____	_____	_____
Canned peaches (#10 can)	_____	_____	_____
(#2½ can)	_____	_____	_____

Which months during the year do you use fresh peaches?_____

Which months during the year do you use frozen peaches?_____

Which months during the year do you use dried peaches?_____

Which months during the year do you use canned peaches?_____

What do you use peaches for?
Please check if you use peaches for these purposes.

FRESH: Sliced ☐ Cakes and Pies ☐ Salads ☐
Other desserts ☐
Other uses _____

FROZEN: Sliced served with sugar and cream ☐
Cakes and Pies ☐ Salads ☐ Other desserts ☐
Other uses _____

DRIED: Stewed ☐ Cakes and Pies ☐ Other desserts ☐
Other uses _____

SCHOOL OF HOME ECONOMICS
MICHIGAN STATE COLLEGE

Page 3

CANNED: Dessert as is ☐ Cakes and Pies ☐

Salads ☐ Other desserts ☐

Other uses _____

What varieties of peaches do you use?

FRESH: Don't know ☐ Elberta ☐ Hale ☐

Hale Haven ☐ Early Rose ☐ Hiley ☐

Golden Jubilee ☐ Georgia Belle ☐

Fair's Beauty ☐

Other varieties _____

FROZEN: Don't know ☐ Hale Haven ☐ Hale ☐

Elberta ☐ Ideal ☐ Golden Jubilee ☐

Crawford ☐

Other varieties _____

CANNED: Don't know ☐ Clingstone varieties ☐

Freestone varieties ☐

Home style or Raggedy Ann varieties ☐

From which State does your chief supply of peaches come? _____

Check the characteristics that you prefer for the fresh peaches which you buy.

Rosy cheek ☐ Good skin color ☐ Plump ☐ Well formed ☐

Well filled out ☐ Free from blemishes ☐ More than two inches in diameter ☐ Less than two inches in diameter ☐

Round ☐ Flat ☐ Slightly immature ☐ Well-ripened ☐

Yellow fleshed ☐ White fleshed ☐ Smooth fleshed ☐

SCHOOL OF HOME ECONOMICS
MICHIGAN STATE COLLEGE

Page 4

Slightly ragged fleshed ☐

Other characteristics _____

Check the characteristics that you prefer for the canned peaches which you buy.

Plump ☐ Well formed ☐ Well filled out ☐ Free from blemishes ☐ More then two inches in diameter ☐ Less than two inches in diameter ☐ Round ☐ Flat ☐ Slightly immature ☐ Well-ripened ☐ Yellow fleshed ☐ White fleshed ☐ Smooth fleshed ☐ Slightly ragged fleshed ☐ Heavy juice ☐ Light juice ☐

Other characteristics _____

Please give some of the reasons:

For using Fresh Peaches _____

_____

For not using MORE Fresh Peaches _____

_____

For using Frozen Peaches _____

_____

For not using MORE Frozen Peaches _____

_____

For using Dried Peaches _____

_____

SCHOOL OF HOME ECONOMICS
MICHIGAN STATE COLLEGE

Page 5

For not using MORE Dried Peaches _____

_____

For using Canned Peaches _____

_____

For not using MORE Canned Peaches _____

_____

Check the fruits which are the strongest competitors of peaches on your menu. If possible, indicate by numerals 1, 2, 3, etc., the order in which they compete.

Apples ☐ Apricots ☐ Avocados ☐ Bananas ☐

Oranges ☐ Grapefruit ☐ Cherries ☐ Grapes ☐

Melons ☐ Mangos ☐ Nectarines ☐ Pears ☐

Pineapples ☐ Plums ☐ Raspberries ☐ Strawberries ☐

Other fruits _____

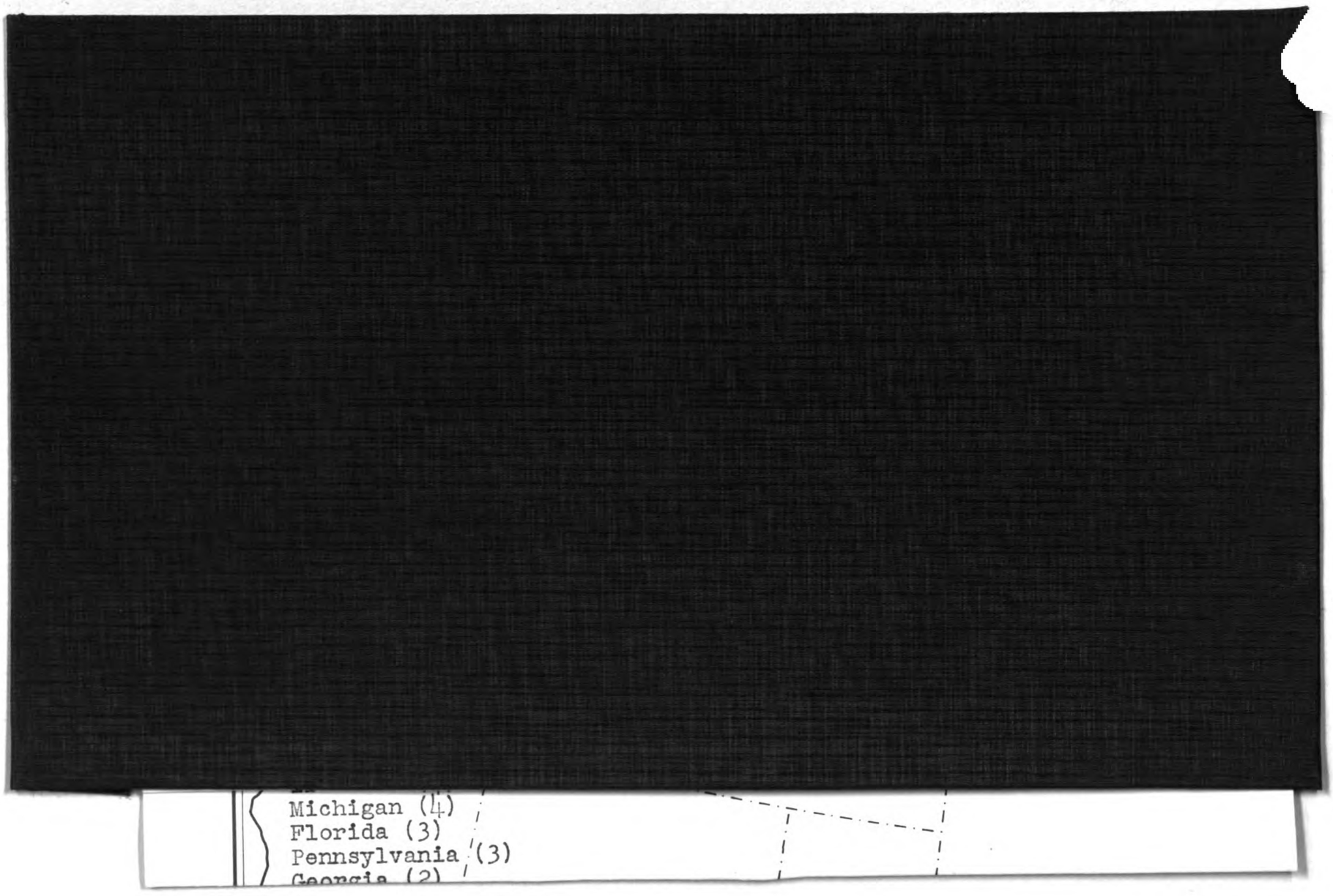
Do you consider quality or price the more important factor in buying peaches for your business?

Quality ☐ Price ☐

We would appreciate it if you would please enclose a copy of your dinner menu.

Comments:

THANK YOU.


Michigan (4)
Florida (3)
Pennsylvania (3)
Georgia (2)

ROOM USE ONLY

ROOM USE ONLY

Ag 56 MAY '51
Se 10 '51

MICHIGAN STATE UNIVERSITY LIBRARIES
3 1293 03037 9741