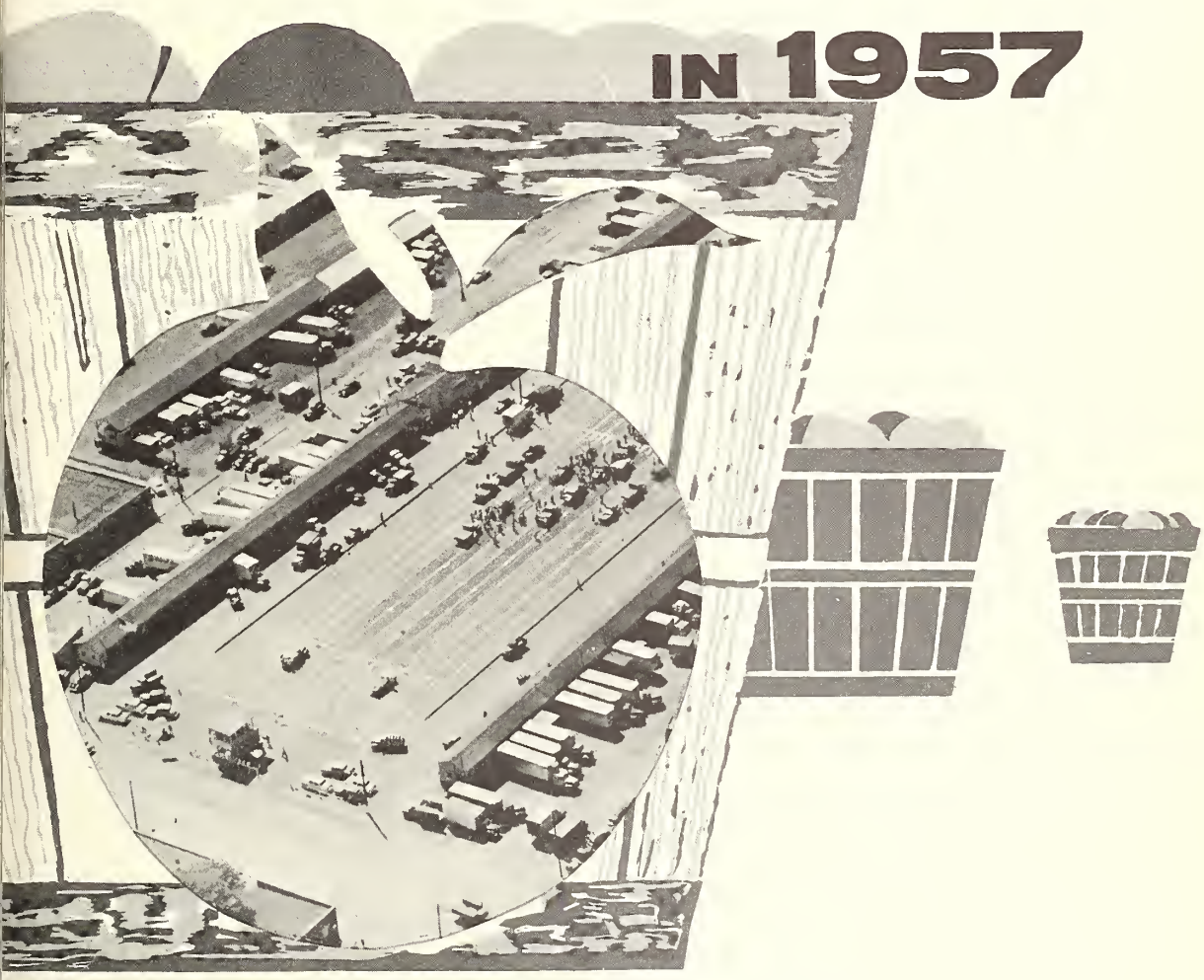
COSTS OF PACKING Michigan Peaches IN 1957



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PREFACE

This report is third in a series of reports on the cost of preparing peaches for the fresh market. Previous reports were: Costs of Packing Colorado Peaches in 1956, Marketing Research Report No. 179, and Costs of Marketing Carolina Peaches in 1954, Marketing Research Report No. 103.

The author is indebted to the peach growers and packers in the vicinity of Benton Harbor, Mich., who permitted the observation of packing operations in their sheds and made available the information on costs of overhead and materials which are a major component of this analysis. Acknowledgment is also due to packing equipment manufacturing concerns who made their equipment specifications and price lists available to the author. Dr. B. C. French and Mr. Don Gillette of Michigan State University offered many helpful suggestions for conducting the study. Mr. R. F. Bittner, District Marketing Agent, Michigan Cooperative Extension Service, was especially helpful by contacting growers and packers and thus paving the way for the successful conduct of the study. Alvin Z. Macomber assisted in the field observations, obtaining the data from a number of peach packers.

CONTENTS

	Page
Summary	1
Introduction	2
Procedure	2
Background	3
Production	3
Disposition	4
Benton Harbor market	5
Packing shed labor	8
Time requirements per packed container	10
Labor cost	11
Wage rates	11
Labor costs per unit of output	12
Overhead and material cost	13
Overhead costs per unit of output	14
Material costs	15
Total costs	16
Estimated grower returns	16
Marketing problems	18
Appendix tables	20

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COSTS OF PACKING MICHIGAN PEACHES IN 1957

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SUMMARY

In recent years, Michigan has ranked third among the States in the production of peaches. The total Michigan peach production in 1957 was approximately 3 million bushels. The principal producing counties in order of importance are Berrien, Van Buren, Allegan, Oceana, and Kent.

In 1957, over 75 percent of the Michigan peaches entered fresh market channels, about 20 percent were canned,and about 4 percent were frozen.

The cost data in this report are based on observations made in 5 central sheds and in 20 farm packing sheds. The bushel basket was the principal container used for packing peaches.

The average time required to pack a bushel of peaches was 18.5 man-minutes in the central sheds and 13.8 man-minutes in the farm sheds.

Labor costs per packed bushel averaged 33.3 cents in the central sheds and 22.9 cents per bushel in the farm sheds.

Overhead costs averaged 15.2 cents per packed bushel in the central sheds and 13.5 cents in the farm sheds.

Material costs, including basket, lid, liner, pad, and fringe, were about 56.2 cents per bushel.

Previous studies have indicated that large well-managed packing sheds operating under the same conditions as smaller plants will normally have lower costs. But the data in this report indicate that under current operating conditions in Michigan farm sheds have lower packing costs than central sheds. Several explanations might be offered. Central sheds apparently were equipped to handle a much larger volume of fruit than they actually packed. Some of the larger growers preferred to do their own packing. Central sheds, for the most part, packed fruit of the smaller growers. There was a considerable variation in quality of such fruit, which slowed down packing operations. Central sheds sometimes operated at a fraction of potential capacity to make sure that labor was available when needed. Most of the farm sheds visited used the same crew or rotation crews for picking and packing. When the supply of peaches was inadequate for packing, workers were shifted to picking or to other tasks.

The Elberta and Halehaven are the most important varieties of peaches grown in Michigan. New varieties are being introduced which will help improve the quality of the Michigan crop as well as spread out the marketing season, which, in turn, will help improve Michigan's competitive position in peaches. However, if Michigan growers are to reap the full benefit of these changes, they, along with packers and buyers, must take it upon themselves to make sure that the consumers are getting a better quality (riper) packed peach.

INTRODUCTION

Peaches are among the most perishable of the fruits in the United States and are available for fresh consumption only about 4 months of the year. Michigan peaches are usually harvested in a period of about 6 weeks--the bulk in 2 to 3 weeks. Before World War II, most of the Michigan crop was used for home canning in nearby areas. Because of this, a substantial portion of the fresh market supply was moved out of the orchards without ever going through packing sheds. Full employment and higher incomes after the war changed the picture. Consumption of fresh peaches decreased while consumption of canned and frozen peaches increased, but there was less home canning. To dispose of their peaches, Michigan growers, therefore, turned to markets which required packing.

This report is concerned with the costs of packing peaches in the principal producing area of southwest Michigan. It is a part of a continuing study of marketing practices designed to improve efficiency and lower costs.

In this report peach packing costs are presented for two types of packing sheds--farm and central sheds. Farm sheds (the smaller sheds) handled fruit of one grower and were usually located on the farm of the owner. Central sheds (the larger sheds) handled fruit of many growers and were located in small cities. Previous studies have indicated that large, well-managed packing sheds generally have lower costs than well-managed smaller sheds because they can use more labor saving machinery, have more efficient utilization of labor, buy supplies in large quantities, and can spread overhead costs over a greater volume of output. Under actual operating conditions in 1957, the central sheds were operating under their full packing capacity to such an extent that their costs were considerably higher than they would have been at capacity operation. Farm sheds, on the other hand, made greater use of their existing packing capacity and, thereby, were able to keep costs down.

PROCEDURE

From August 25 to September 13, 1957, detailed observations were made of labor operations pertaining to peach packing in 5 central sheds and in 20 farm packing sheds. The packing sheds included in the study were located in Berrien, Van Buren, and Allegan Counties in southwestern Michigan and in La Porte County in northwestern Indiana.

The time required for performing each of the packing shed operations, from receiving the fruit to stacking and loading out the packed containers, was measured.

The actual time each packing shed was in operation on the day visited was noted. For each job category, the number of hours of actual operation or number of hours specific jobs were performed were multiplied by the number of workers employed to give the total man-hours. To calculate time requirements per packed container, total time requirements for each job category were converted into man-minutes.

The labor cost for each of the packing shed operations was obtained by multiplying the total labor requirements in each job category by the applicable wage rates. Labor costs per unit were determined by dividing the total cost in each category by the number of containers packed on the day visited. Because many of the buildings and much of the equipment used in the packing of peaches was already fully depreciated, overhead costs were obtained on a replacement basis. The estimates of replacement costs of building and equipment were obtained whenever possible by interview with packing shed owners and managers. Because many of the farm packing owners indicated a lack of familiarity with replacement values of packing equipment, replacement costs of such equipment were obtained from equipment suppliers. The replacement cost of packing equipment in central sheds was furnished by packing shed managers.

Material costs and charges for electricity and telephone also were estimated by the plant owners and managers.

BACKGROUND

Production

In 1957 Michigan, with an estimated total crop of 2,950,000 bushels, ranked third among States in the production of peaches. It was surpassed by California, with a total of 35,045,000 bushels, and South Carolina, with 4,400,000 bushels.1/

Michigan also ranked third in the U. S. from 1948 to 1957 with an average production of 3,550,000 bushels of peaches. Production has been below this 10-year average in most years since 1951 because of a heavy freeze in 1950.

The principal peach producing counties in the order of importance are Berrien, Van Buren, Allegan, Oceana, and Kent (table 1). All these counties with the exception of Kent County border Lake Michigan. According to the

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1/ All 1957 figures in this report were taken from the September 10, 1958, issue of Crop Production. U. S. Agr. Mktg. Serv.

Table 1.--Average number of peach trees of all ages per farm in Michigan, 1954

Counties	Peach trees of all ages per farm in 1954 1/	Trees of bearing age
	Number	Percent
Principal Counties:		
Berrien	642	71.8
Van Buren	568	77.1
Allegan	665	80.4
Kent	481	78.6
Oceana	630	72.9
Rest of State	124	71.0

1/ Excluding farms with 20 trees or less. U. S. Census of Agriculture, 1954.

U. S. Census of Agriculture these 5 counties accounted for about 80 percent of the State's production of peaches in 1954, whereas the 18 next most important counties together accounted for an additional 18 percent.

The census indicates that about one-third of the farms in Berrien County reported growing peaches in 1954, while 15 percent in Oceana County, 11 percent in Van Buren County, and 7 percent, each, in Allegan and Kent Counties, reported doing so.

About three-fourths of the trees were of bearing age at the time the census was taken. In more recent years, the picture may have changed somewhat as a result of planting new varieties of peaches and the removal of less popular ones such as the Halehaven and some strains of Elberta.

The principal variety of peach grown is the Elberta. Other important varieties are the Halehaven and Redhaven. Distribution of these and the less prominent varieties is shown in table 2.

Nearly half the peach trees planted before 1951 were Elberta, about one-fourth were Halehavens, and one-tenth were Redhavens. After 1951, plantings of Elbertas and Halehavens for the State as a whole decreased 40 and 65 percent, respectively, while plantings of Redhavens and other new varieties increased several fold. Changes for the southwest area of the State were similar to those for the State as a whole. The new varieties being introduced mature earlier and later as well as at the same time as Elbertas, thereby extending the Michigan peach marketing season and improving the State's competitive position.

Disposition

There has been a downward trend in fresh market sales of Michigan peaches since 1949, while the reverse was true for peaches going into processed

Table 2.--Percentage of total Michigan peach trees by varieties in 1956

Variety	State			Southwest		
	Total	Planted		Total	Planted	
		Before 1951	1951 & later		Before 1951	1951 & later
	Percent	Percent	Percent	Percent	Percent	Percent
Elberta	38.4	46.3	27.6	39.9	48.1	29.0
Halehaven	19.8	25.9	11.5	18.8	25.5	10.0
Redhaven	14.1	10.3	19.2	13.8	9.8	19.1
Amber Gem	7.4	4.1	12.2	7.4	4.0	11.8
Fairhaven	5.8	2.1	10.8	5.9	2.2	10.7
Kalhaven	2.9	2.1	4.0	2.3	1.4	3.5
Redskin	1.9	.1	4.2	2.1	.2	4.8
Rio Oso Gem	1.4	.7	2.4	1.6	.8	2.7
Other	8.3	8.4	8.1	8.2	8.1	8.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

Michigan Department of Agriculture, U. S. Dept. Agr., Agr. Mktg. Serv., Crop Reporting Service cooperating.

products. Over 95 percent of the annual production of Michigan peaches was sold off the farm in recent years. In 1949 about 88 percent of the Michigan peaches sold went into fresh market channels, 11 percent were canned, and less than 1 percent were frozen. By 1956, slightly over 75 percent of the Michigan peaches were for the fresh market, about 20 percent were utilized for canning, and about 4 percent were frozen (table 3).

The Benton Harbor Market

The Benton Harbor Fresh Fruit and Vegetable Market is a shipping point concentration type of a market located at Benton Harbor, Mich. It is municipally owned and operated. An entrance fee of 25 cents per load for loads of 25 packages or under and 50 cents per load for loads of 26 packages or over is collected from the grower as he enters the market. The market is in operation about 6 months of the year.

Shortly after entering the market the grower is usually met by one or more wholesale buyers with whom he negotiates directly in arriving at a price for his commodity. If the grower accepts an offer, he receives the original sales ticket from the buyer, who retains the duplicate copy for his records. This ticket indicates the location of the buyer's stall.

The grower then moves to the buyer's loading platform, delivers and unloads his peaches at the buyer's stall. As soon as he delivers the peaches and presents his sales ticket, he is paid.

Table 3.--Utilization of sales of Michigan peaches 1949-56

Year	Total sales	Sold fresh	Processed		Total sales	Sold fresh	Processed	
			Canned	Frozen			Canned	Frozen
	1,000 bu.	1,000 bu.	1,000 bu.	1,000 bu.	Pct.	Pct.	Pct.	Pct.
1949	3,394	2,994	372	28	100.0	88.2	11.0	0.8
1950	4,564	3,819	605	140	100.0	83.7	13.3	3.0
1951	557	471	55	31	100.0	84.6	9.9	5.6
1952	3,240	2,612	521	107	100.0	80.6	16.1	3.3
1953	2,815	2,376	362	77	100.0	84.4	12.9	2.7
1954	2,500	1,953	408	139	100.0	78.1	16.3	5.6
1955	2,250	1,675	439	136	100.0	74.4	19.5	6.0
1956	2,550	1,946	497	107	100.0	76.3	19.5	4.2
1949-1956 averages	2,733.8	2,230.8	407.4	95.6	100.0	81.6	14.9	3.5

Michigan Agricultural Statistics, Michigan Department of Agriculture, and U. S. Agr. Mktg. Serv., Crop Reporting Service cooperating, June 1957.

The buyer combines the individual grower's load with others of similar grade and sends them to the wholesale markets of Chicago, Detroit, Cleveland, and other cities to be sold for his account or to be delivered to the wholesaler for whom he acts as a buyer. The buyer may also represent a chainstore, in which case he assembles a load for shipment to the nearest chain warehouse.

In recent years about 30 percent of all Michigan peaches or about one-half of the southwest Michigan peaches intended for the fresh market passed through the Benton Harbor Market (table 4). As the remainder were packed, they were sold through central packing sheds and by growers directly to wholesale and chainstore buyers. An undetermined amount of peaches, however, was sold by growers directly out-of-orchard to itinerant truckers who disposed of the peaches in various ways to fruit stands, public markets, and small retail stores.

Over 80 percent of the peaches that passed through the Benton Harbor Market was destined for distribution in Illinois, Indiana, Iowa, Kentucky, Michigan, New York, Ohio, Tennessee, West Virginia, and Wisconsin (table 5).

No data are available on destinations of peaches sold by central packing sheds and growers direct to wholesale and chainstore buyers. However, the pattern of distribution for these and other outlets was probably not materially different from sales made by the Benton Harbor Market.

Table 4.--Michigan fresh peach sales on the Benton Harbor Market, 1949 to 1956

Year	Volume of peaches sold on Benton Harbor Market	Proportion of total fresh Michigan peach sales sold over Benton Harbor Market	Proportion of fresh sales in Southwest Michigan sold over Benton Harbor Market
	Carlots	Percent	Percent 1/
1949	2,314	30.9	38.6
1950	3,577	37.5	48.7
1951	147	12.5	16.9
1952	2,115	32.4	45.6
1953	1,533	25.8	38.5
1954	1,224	25.1	39.2
1955	1,326	31.7	51.9
1956	1,479	30.4	52.4

1/ In 1949 Southwest Michigan had 80 percent of the bearing peach trees and in 1954, 64 percent. Intervening years interpolated, subsequent years extrapolated.

U. S. Agr. Mktg. Serv., Marketing Michigan Peaches, Season Summaries 1949 to 1956 and Michigan agricultural statistics.

Table 5.--Primary destinations of truck shipments of Michigan peaches sold on the Benton Harbor Cash Market for fresh market consumption, 1949 to 1957

States	1952	1953	1954	1955	1956	1957	1952-56 av.
	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Illinois	10.9	10.1	12.4	13.3	12.2	13.3	11.7
Indiana	17.8	19.0	24.3	23.8	14.9	11.4	19.5
Iowa	4.9	4.4	3.2	2.9	6.5	6.0	4.5
Kentucky	4.7	6.5	6.3	8.9	3.8	5.1	5.9
Michigan	15.2	11.2	21.6	10.2	14.2	9.6	14.4
New York	5.3	6.5	6.1	2.9	1.7	1.9	4.6
Ohio	12.2	9.3	4.9	3.2	9.5	8.7	8.4
Tennessee	7.1	6.1	5.3	7.5	5.1	6.8	6.3
West Virginia	1.7	5.5	4.2	4.4	4.7	5.6	3.9
Wisconsin	2.5	1.9	1.6	5.1	8.4	8.6	3.8
All other States	17.7	19.5	10.1	18.0	19.1	23.0	17.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

U. S. Agr. Mktg. Serv., Marketing Michigan Peaches Season Summaries, 1949-1957.

PACKING SHED LABOR

Michigan peaches intended for the fresh market were: (1) Sold directly out of the orchard without packing costs incurred by the grower, (2) packed in the grower's packing shed, or (3) hauled to a central packing shed.

Many circumstances can increase packing shed costs. Rain, fog, or dew can put a stop to picking, leaving the packing shed crew idle. A sudden rise in temperature may accelerate ripening so that the picking rate is speeded up. This increases the chances of bruising. It also means that the number of peaches too ripe for packing is increased. Consequently the amount of fruit packed is decreased, thus increasing packing costs per bushel.

Occasionally the growers who did their own packing attempted to overcome some of these handicaps by using the same crew for harvesting and packing. Sometimes several crews were rotated between the packing shed and orchard. In such instances, growers usually provided housing for their workers. Where separate crews were used for picking and packing, the packing crew generally was not housed. In this report wages in the form of housing are considered a part of the picking operations.

The conditions that influenced harvesting operations affected the central packing sheds to the same degree. The central sheds were also affected by other conditions. All the central sheds visited were cooperatives. Many of their receipts were from small growers with small lots. The quality, maturity, and so forth, tended to vary considerably from lot to lot. In addition, central sheds often received unexpected volumes of fruit from large growers. These receipts were from growers who usually did their own packing, but who, because of weather conditions, for example, found themselves swamped with more fruit than they were equipped to handle. This was usually at a time when volume received from all sources was high. At other times the central sheds would receive much less fruit than they were equipped to handle.

While there was a considerable variation in size of packing sheds and in the equipment used, the basic packing processes were similar. In some instances growers used old bushel baskets to bring in peaches from the orchards but generally the peaches were brought in field crates to the packing shed. The crates were loaded on a grower's truck or trailer to the central sheds and on a tractor drawn trailer to the grower's shed.

The field crates were unloaded from the grower's truck or trailer at the central sheds, checked in, given a lot number, and moved by pallet trucks or forklift trucks into a temporary storage area on the packing shed floor. The crates were usually stacked on pallets in 4 or 5 tiers with 6 to a tier. From there they were moved by pallet truck to the dumping station. If the fruit was not packed on the day received it was moved to refrigerated storage on pallets and brought out as needed.

At the farm sheds the peaches in field crates were usually unloaded and stacked near the dumping station. Sometimes the fruit was unloaded directly onto the packing equipment from the orchard trailer.

Automatic dumpers were used in 3 of the 5 central sheds visited. Where such equipment was in operation the man who fed the equipment merely carried the crates from a nearby stack and put them onto a roller conveyor leading to the dumping mechanism. The fruit was brought to the dumping station by pallet truck. The dumping mechanism--a rotating drum-like apparatus with lift prongs--picked up a crate of fruit, lifted and emptied it onto the packing equipment, and released the empty crate onto a belt which moved it to a storage area. The automatic dumper was set to operate at a constant speed. To minimize bruising, a series of V-Belts was used to cushion the fruit as it was moved onto the equipment.

In the central sheds not equipped with automatic dumpers, the man who did the dumping had to get a field crate of peaches from a nearby stack and empty it onto a belt leading to the grading machine. He also put the empty crates on a belt conveyor which moved them to a storage area. The man who does the dumping, therefore, needs strength, stamina, and good coordination to maintain a certain pace in dumping, keep a steady supply of peaches moving through the equipment, and minimize bruising of the fruit. The most pronounced interruption of the flow of fruit through the equipment occurred between lots.

The dumping operation in the farm packing sheds was performed either directly by a man who picked up a crate of peaches from a nearby stack, lifted it and emptied it onto the dumping belt and then discarded the empty crate; or indirectly, by a man who first picked up a crate of peaches from a nearby stack and inserted it into a manually operated spring type box dumper, which emptied the fruit onto the dumping belt, and then he discarded the empty crate.

The peaches were moved by rollers from the dumping station to the defuzzer. From there they were moved to an elevator roller where workers removed the overripe and defective fruit, leaves, twigs, and other extraneous materials. Most of the grading and culling took place at the elevator roller. In the plants using automatic dumpers a few workers were stationed immediately before the defuzzer to remove debris as well as overripe and damaged fruit which might not go through the brushes.

After brushing and grading, the peaches were moved on to a sizer. With few exceptions the 2 sizes of peaches packed were 1-3/4 to 2 inches and 2 inches and up. The sizer deposited the peaches onto belts which conveyed them onto packing tables or bins. In 3 of the central sheds and in some of the farm packing sheds the farm packing table consisted of 1 or more 2-way belts. Peaches were packed in bushel baskets in all the central sheds visited and in most of the farm packing sheds. A few of the farm packing sheds also packed 3/4-bushel baskets and filled special orders for other types of containers as specified by the buyer, but such operations were too few to be included in this report.

The packing operations in both central and farm packing sheds consisted of facing, filling, putting on the bushel basket, and turning the basket right

side up. In the facing process, peaches were selected by hand and fitted into a special metal lid or facing form in a neat and even layer which later became the top of the packed basket. After facing, a cardboard liner in the shape of the inside of a basket was fitted over the metal lid and a metal tub or hoop was put over the liner. Sometimes the cardboard liners were fitted into a metal tub and placed over the lid in one operation. The tub was then filled jumble fashion either by allowing the peaches to flow in from the bin or packing belt or by lifting the peaches off the packing belt into the tub.

After the tub was jumble-packed the metal tub frame or hoop was removed and a basket inserted over the filled liner. The inverted basket was then moved along a roller conveyor to the basket turner. In all sheds visited, except one, the basket was righted by means of a manually operated basket turner. Then the metal face lid was removed.

In the central sheds and in some of the larger farm sheds the packed basket was moved along a roller conveyor and mechanically tallied.

In the sheds where hydrocooling was used, the packed baskets without lids were moved along a roller conveyor to the hydrocooler. The baskets were placed in the hydrocooler and moved through the machine on a continuous slat conveyor. The peaches were sprayed with ice water for 10 to 20 minutes, depending upon the temperature of the day, to reduce the pit temperature of the packed peaches to about 55° F. When the baskets came out of the hydrocooler they were removed and the lids were inserted, the side wires were fastened, and the packed basket was ready for storage or loading on a truck. In the larger sheds not having hydrocooling the packed basket was lidded after tallying.

In the central packing sheds and in some of the larger farm sheds there were additional workers who cleaned the plant, handled overripes and culls, and made adjustments in the machinery. There were also time keepers and supervisors, who were responsible for the overall operation of the shed. In the central sheds the supervisory function was performed by a plant manager with one or more assistants. In the farm sheds supervision was usually by the farmer and his wife.

Time Requirements per Packed Containers

The average time required to perform the operations from receiving the bulk fruit in the packinghouse to loading out or storing the packed containers was 18.5 man-minutes per packed bushel in central sheds and 13.8 man-minutes per basket in farm sheds. The range in man-minutes per packed container was 16.3 to 22.0 man-minutes for the central sheds and 8.9 to 18.0 man-minutes for the farm sheds. The average labor requirements per operation for farm and central sheds are compared in table 6 and for individual sheds in tables 9 and 10.

With the exception of dumping of incoming fruit and supervision, the central sheds had higher labor requirements in all categories. Although the central sheds packed a higher volume of peaches than farm sheds, they did not

Table 6.--Average labor requirements and costs per packed bushel basket of peaches for fresh market, southwest Michigan, 1957

Operation	Labor requirements and costs per packed bushel basket			
	Farm packing sheds		Central packing sheds	
	Man-minutes	Cents	Man-minutes	Cents
Receiving, including unloading	.892	1.268	1.304	2.459
Dump	.824	1.139	.334	.654
Grade	1.797	2.416	3.309	5.376
Supply material	.127	.191	.334	.599
Pack	6.580	9.221	7.940	13.303
Lid, stamp, and tally	.970	1.333	1.193	2.111
Stack and load	.873	1.226	1.238	2.220
Stack empties	.050	.060	.481	.879
General	.372	.501	1.268	2.355
Cool	.152	.181	.374	.681
Supervisory	1.174	5.323	.694	2.618
Total labor	13.811	22.859	18.469	33.255

pack as large a volume as they had facilities to handle. They apparently were not very successful in getting the volume of fruit in the quality needed to reduce labor requirements per packed container. Weather also seriously affected the volume of fruit received at the central packing sheds. On the other hand, most grower packing sheds used labor which was also used in picking and hauling. Because their crews could be otherwise employed there was less inclination on the part of growers to operate packing sheds when weather was unfavorable or when supply of picked peaches was low. Furthermore, it was the larger and more efficient growers who did their own packing while most of the fruit received by the central sheds was from smaller growers who had volumes too small to do their own packing.

LABOR COSTS

Wage Rates

The labor costs in this report were obtained by multiplying the total hours worked in each job category by the hourly wage. Costs per packed container were obtained by dividing the gross labor cost by the number of packed containers produced during the period of observation.

The wage rates used were those quoted by the central shed managers of farm packing shed owners, except for supervisory help. There was considerable variation in the wages paid packinghouse labor. In the central sheds the

range was from about $0.85 per hour to $1.90, excluding any bonus that might have been paid at the end of the season. The most common wage rate in the central sheds was around $1.10 per hour.

The range in wages for packinghouse labor in farm sheds was even greater from $0.65 to $1.75 per hour, excluding any post-season bonuses. In the farm sheds usually the wage for crews used for picking and hauling as well as for packing was around $0.75 per hour. The wage for crews used exclusively for packing was around $1 per hour.

There was some variation in the wage rates between jobs, but these were not consistent between plants and may have been due to the experience and skill of individual workers rather than to the jobs themselves. To make supervisory data comparable, shed foremen and farm packing shed owners were assigned a wage rate of $3 per hour. It was assumed that owners of farm packing sheds had devoted full time to the supervision of shed operations.

Any bonuses that were paid were disregarded, as were social security taxes amounting to 2.25 percent. Actual out of pocket costs, with the exception of supervisory wages, may have been higher than indicated.

Labor Costs per Unit of Output

Using the 1957 wage rates, table 6 shows the average total cost of labor to pack peaches in the central sheds and in the farm sheds. The range in packing costs in the central sheds was 26.6 to 36 cents, while the range in farm sheds was from 14 to 34.6 cents per basket as illustrated in tables 11 and 12.

The ranges of receiving and unloading peaches per packed container at the packinghouse was 0.8 to 3.8 cents in the central sheds and 0.5 to 2.7 cents in the farm sheds.

The cost per bushel basket of dumping peaches onto the packing line ranged from 0.4 to 0.9 cents in the central sheds and 0.3 to 2.1 cents in the farm sheds. The lower cost for dumping in the central sheds compared with the farm sheds may be attributed to the higher volume of peaches packed. One man was required to perform the dumping function, whether volume was large or small, to assure a steady flow of fruit through the packing equipment. The wide range in cost of dumping peaches onto the packing line in the farm shed is due, in part, to the variation in wages paid to the person by each of the 20 packing sheds in performing this job and, in part, to the variation in volumes packed on the days the study was made (tables 11 and 12).

The grading costs in the central sheds ranged from 4.5 cents to 6.3 cents and the range in the farm sheds was from 1.2 cents to 4.4 cents (table 11 and 12).

The cost of packing a bushel basket of peaches, which included facing, filling, putting baskets on and turning them, was the largest cost item, ranging from 11.7 to 14.1 cents per bushel in the central packing sheds and from 4.7 to 13.7 cents in the farm sheds.

The per unit labor costs of (1) lidding, stamping, and tallying; (2) stacking and loading; (3) supplying materials; (4) stacking empties; and (5) hydrocooling peaches were lower in the farm sheds than in the central sheds mainly because few of the farm packing sheds employed personnel to perform such functions. Only 4 of the farm sheds had equipment used for hydrocooling, and 1 of these was operating the equipment on a part-time basis. On the other hand, 3 of the 5 central sheds visited were using hydrocooling equipment. There was not much difference in labor costs for hydrocooling between central sheds and farm sheds performing this service. For example, labor costs per packed bushel in hydrocooling peaches averaged 1.14 cents for central sheds using such equipment and 1.20 cents per container for farm sheds which hydrocooled their peaches (see table 11 and 12).

The cost of supervisory labor in central sheds was about one-half that of the farm sheds. With $3 per hour as the wage for the central packing plant manager and for the owner of the farm shed, the cost per bushel of peaches in the central sheds ranged from 1.7 to 3.2 cents. In the farm sheds there was a range of 2.6 to 10.0 cents.

The cost of supervisory labor was lower in the central sheds than in the farm sheds because: (1) Supervisory labor is largely a fixed cost--a supervisor is needed whether a large or small volume of fruit is packed; (2) in most farm sheds the owner-supervisor performed many nonsupervisory functions. The assumption was made in this report that the owner's time was spent entirely in supervising; and (3) the $3 per hour wage rate for the owner-supervisor of a farm packing shed may have been less realistic than the same rate for the central plant manager.

OVERHEAD AND MATERIALS COST

The overhead costs pertaining to buildings and equipment were computed on a replacement basis. This was done to assure greater comparability of data on overhead. Most of the sheds visited had both buildings and equipment already fully depreciated. In both central and farm packing sheds, buildings were depreciated on a 20-year basis while equipment was depreciated over 10 years.

Estimates of annual costs of insurance, taxes, power, telephone service, and repairs were obtained whenever possible from the packing shed manager or owner.2/

2/ In the instances where it was not possible to obtain this information allocation of these other costs (excluding building and equipment depreciation) was in accordance with those contained in the following report: L. L. Sammet and I. F. Davis, Building and Equipment Costs, Apple and Pear Packing. Efficiency in Fruit Marketing. Mimeo. Rep. No. 141, Calif. Agr. Expt. Station, Giannini Foundation of Agricultural Economics, December 1952, p. 21, adapted in this report to Michigan conditions.

No interest was charged on investments in buildings and equipment. The assumption was made that these were "sunken" costs. Taxes were usually levied on the farm as a whole (not on farm packinghouse separately) at the usual rate of 15 mills per $1 assessed value. The usual assessed valuation of farms and residences in southwest Michigan was 60 percent of actual value. On farm packing shed, taxes were calculated at 15 mills on an assessed valuation of 60 percent of replacement value. Insurance on building was $4.50 per $1,000 assessed valuation and $4 per $1,000 on equipment. Other overhead cost estimates were as determined in the survey.

For central sheds, where data were not obtained from the plant manager, taxes were estimated at 1.5 percent of the first cost, insurance at 0.75 percent, repairs at 2.5 percent, and miscellaneous services at 3.5 percent of first cost.

Replacement values of farm packing shed buildings on farms and equipment were requested of the owner-operators. A number of the owners said they did not know the replacement value of the packing equipment. In such instances replacement values were determined by the use of equipment specification and price catalogs from equipment manufacturers. The catalog also provided a check on the replacement values of equipment when given by the owner.

Much of the equipment used in the farm packing shed was adapted by the owners--new or fairly new pieces of equipment were fitted in with improvised older equipment. Farm packing machinery was set up in machine sheds, in garages, in converted dairy barns, and in an old church building as well as in sheds constructed for packing operations.

Replacement values of equipment and buildings of central sheds were requested (but not obtained in all instances) from the managers of such plants. Because most of the equipment in the central sheds was custom made, the estimates of replacement value as given by the managers could not be checked by equipment specifications and price catalogs.

Of the 5 central sheds on which data were obtained, 1 was operating entirely as a packing shed and storage place and 2 handled farm supplies along with packing and storing. Two of the packing plants were equipped to can and freeze fruits and vegetables as well. Overhead costs for these 2 plants were determined for replacement value of buildings and equipment required for packing the volume of peaches these plants handled.

Overhead costs per packed bushel of peaches were determined as follows: (1) The total overhead chargeable to packing operation in each plant was multiplied by the proportion of peaches of total fruit packed, and (2) the resulting figure was divided by total estimated bushels of peaches packed in 1957 by each packinghouse.

Overhead Costs per Unit of Output

Overhead costs per packed bushel averaged 15.2 cents per bushel and ranged from 12.4 to 16.2 cents in the central sheds This includes a charge

for the ice used in hydrocooling. If the charge for ice were excluded, the average overhead per container in the central sheds would have been 12.1 cents with a range from 10.2 to 14.2 cents. In the farm sheds, total overhead charges averaged 13.5 cents per packed container with a range from 4.4 to 43.6 cents. If the charge for ice were omitted the average overhead cost in the farm sheds would have been 12.2 cents per container with a range from 4.4 to 40.6 cents. Average overhead costs are compared in table 7 with the ranges shown in tables 13 and 14.

Table 7.--Average overhead costs per packed bushel basket of peaches, Southwest Michigan, 1957

Item	Farm packing sheds	Central packing sheds
	Cents	Cents
Depreciation:		
Building	4.229	3.877
Equipment	4.587	1.644
Insurance	.366	.954
Taxes	1.140	1.355
Power	.313	1.506
Repair	.529	1.097
Telephone & telegraph	.512	.466
Miscellaneous	1.829	4.357
Total	13.505	15.256

Material Costs

The usual charge for a complete bushel basket container was 56 cents each. This includes the basket, lid, pad, and fringe. The breakdown of container costs was as follows:

	Cents
Basket and lid	42.5
Liner	5.8
Pad	4.8
Fringe	3.1
Total	56.2

The above prices were in lots of a dozen for baskets and in units of a thousand for the filler materials. It is probable that the central packing sheds and some of the larger farm packing sheds bought packing materials at a quantity discount below the prices quoted above.

TOTAL COSTS

The total costs of packing fresh market peaches averaged $1.05 per basket in the central sheds and 93 cents in the farm packing sheds (table 8).

In each instance packing materials accounted for over one-half of the total cost of packing. Labor costs were over one-fourth of the total packing cost while overhead costs were less than one-fifth of the total.

Table 8.--Average total costs in packing peaches for the fresh market, Southwest Michigan, 1957

Item	Farm packing sheds	Central packing sheds
	Cents	Cents
Labor costs	22.859	33.255
Overhead costs	13.505	15.256
Materials costs	56.200	56.200
Total costs	92.564	104.711

ESTIMATED GROWER RETURNS

A peach grower in the vicinity of Benton Harbor, Michigan has a number of alternatives in selling his fruit. One, he can sell directly after picking to truckers who come by his orchard and be paid at time the sale is made. Two, he can sell peaches at roadside stands. Three, he can sell through central sheds. In this case he will haul his fruit in field crates to the shed to be graded and packed and will be paid on the basis of a daily pool. Finally, he can do his own grading and packing and sell his fruit in 4 ways: (1) On the Benton Harbor Market to the highest bidder; (2) directly to a buyer who operates on the Benton Harbor Market, (3) directly to chainstore buyer who comes to his packing shed; and (4) through a broker or commission merchant in a particular wholesale market.

Of course, the grower's selection of outlets is governed by his desire to maximize returns and/or minimize losses. To achieve this goal the grower may sell peaches through several outlets. He may sell to truckers directly out of the orchard when: (1) There is a temporary market glut and the price he receives from the trucker is about equal to prices he might get elsewhere less packing, selling, and hauling costs; (2) a rapid rise in temperature accelerates ripening beyond grower's ability to dispose of peaches through other channels without serious losses; (3) the overall quality of his crop or portion of crop is too low to warrant additional expenditure for packing, transporting, and selling.

Central packing sheds are attractive outlets for growers: (1) Whose production is too small to warrant investment in packing equipment; (2) who prefer to concentrate on the production of peaches and leave the packing and selling functions to others; and (3) who usually do their own packing and selling but, because of sudden increases in fruit harvested, find this increased volume too large to handle with existing facilities.

Most sales made by central sheds were either through brokers or their own sales offices to chainstore and wholesale buyers in markets outside of Michigan.

The Benton Harbor Market serves as an indicator of prices which growers might expect to receive. Growers who do their own grading and packing will seek to maximize their returns or minimize their losses by first testing the Benton Harbor Market. On this market wide price variation frequently prevails for the same grade, size, or pack during a market day. This, of course, is largely attributed to differences between lots in the same grade and the demand and supply situation but grower reputation for selling quality products is also important.

Distance from the Benton Harbor Market and the volume of peaches packed daily are also considerations that enter in the grower's decision on whether or not to use the Benton Harbor Market. Large growers frequently will sell some peaches through the Benton Harbor Market to a particular buyer and then sell additional peaches directly to the same buyer. Also, large growers may sell to chainstore buyers who visit their sheds. Growers located over 25 miles from Benton Harbor may also consider selling through brokers in various wholesale markets.

Earlier in the report it was indicated that about one-half of the peaches sold for the fresh market in Southwest Michigan passed through the Benton Harbor Market. For illustrative purposes, let us assume that during the second week in September 1957, a grower in the vicinity of Benton Harbor brought to the market of 200 packed bushels of U. S. No. 1, size 2 inches and up Elberta peaches. He paid an entrance fee of 50 cents, sold to the highest bidder and got $2.50 per bushel for his fruit. His packing costs averaged about 93 cents a bushel. The details of his transaction were as follows:

	Dollars per bushel
Price received at Benton Harbor Cash Market.....	$2.5000
Entrance fee.....	.0025
Transportation (estimated cost).....	.1000
Cost of packing.....	.9277
Net return to grower.....	$1.4698

Most of the smaller growers in the vicinity of Benton Harbor who do their own packing used this method in disposing of their peaches. The larger growers also sold direct to buyers operating on the Benton Harbor Market and to chainstore buyers who visited their sheds.

MARKETING PROBLEMS

The introduction of varieties of peaches which mature before, at the same time, and after the Elberta variety should help improve Michigan's competitive position. Of course, this may to some extent affect the competitive position of other producing areas. At present, however, Halehavens consist of about 25 percent and Elbertas about 40 percent of the peaches in Michigan. While these varieties largely complement each other, the bulk of the Michigan peach harvest occurs in a 2 to 3 week period. This situation is likely to continue until the new varieties come into production and gradually replace the trees of the 2 dominant varieties.

The bushel basket is the principal container used for packed peaches in Michigan. Apparently the trade considers that the advantages of this container, such as the faced pack and the extra peaches that can be put in beyond legal requirements, outweigh its serious disadvantage that only hard-ripe peaches are able to successfully withstand shipment without bruising.

The Michigan peach industry needs to give serious consideration to the problem of reducing packing costs to a practical operating minimum. It is apparent that substantial reductions in costs can be achieved, particularly in the central sheds, where costs under present conditions are higher than those in the farm sheds. If the central sheds are organized to attract and efficiently handle large volumes of fruit, they will be able to take advantage of the opportunities which are available to larger sheds to use more efficient methods and labor-saving equipment. The managers of individual packing sheds--both farm and central sheds--can also make individual adjustments in their own operations in order to increase efficiency and lower costs. By comparing the costs for each operation with those of other packing sheds in the area, a manager can locate high-cost operations which call for investigation and possible readjustments.

Growers, packers, and buyers generally recognized that consumers prefer riper peaches, but were not in agreement on how this might be achieved. Some sheds actually packed riper peaches. They took special precautions to minimize bruising by reenforcing the rougher spots in the packing equipment with foam rubber. They exercised care in the filling of tubs. Their efforts, however, were often almost nullified by the rough way in which baskets were packed, and lidded. To add to more confusion, buyers tended to shy away from the riper fruit.

There was also confusion on hydrocooling. The purpose of hydrocooling packed peaches is to remove field heat as rapidly as possible in order to slow down ripening and spoilage. It was found that sometimes peaches were hydrocooled and then stacked in unrefrigerated storage for periods up to 12 hours. Under such circumstances the hydrocooling process meant little or nothing, yet hydrocooled peaches were selling at a premium of 25 cents per packed basket over nonhydrocooled fruit.

A more determined action on the part of growers, packers, and buyers in seeing that the consumers are supplied with riper peaches appears to be seriously needed if Michigan expects to receive the full advantage of newer and more attractive varieties of peaches.

Table 9.--Labor requirements per packed bushel basket of peaches for the fresh market, 20 Michigan farm packing sheds, August-September 1957

	Farm packing sheds										
	A	B	C	D	E	F	G	H	J	K	L
	Man-min.	Man-min.	Man-min.	Man-min.	Man-min.	Man-min.	Man-min.	Man-min.	Man-min.	Man-min.	Man-min.
Receive	2.000	.702	.400	.438	2.040	.804	.790	.874	.590	.774	.742
Dump	1.000	.702	1.000	.766	1.020	.804	.529	.874	.590	.471	.742
Grade	1.000	1.403	3.000	1.533	1.020	1.609	1.588	1.747	1.026	3.095	1.484
Supply material	---	.702	---	---	---	---	529	---	---	---	.742
Pack	10.000	6.316	7.167	3.760	8.158	5.631	4.763	7.862	6.646	5.674	7.421
Lid, stamp, tally	1.332	1.053	1.000	.374	1.360	.402	1.058	.874	.753	1.032	1.113
Stack and load	.666	.950	.500	.867	1.020	.497	1.192	.874	.590	1.032	1.113
Stack empties	---	---	---	---	---	---	---	---	---	---	---
General	---	.351	---	.438	---	---	.596	2.524	.590	.774	---
Hydrocool fruit	---	---	---	---	---	---	---	---	---	---	---
Supervisory	2.000	1.404	1.000	.766	2.040	.804	.529	1.747	.590	1.032	.742
Total	17.998	13.583	14.067	8.942	16.658	10.551	11.574	17.376	11.375	13.884	14.099

	Farm packing sheds									
	M	N	O	P	Q	R	S	T	U	Average
	Man-min.	Man-min.	Man-min.	Man-min.	Man-min.	Man-min.	Man-min.	Man-min.	Man-min.	Man-min.
Receive	1.239	.969	1.132	.585	.416	.449	1.738	.571	.578	.892
Dump	1.239	.969	1.132	1.169	.416	.449	1.738	.571	.289	.824
Grade	2.477	.969	1.132	3.508	2.079	1.798	1.738	1.712	2.023	1.797
Supply material	---	---	---	---	---	---	---	.571	---	.127
Pack	7.431	6.318	7.924	4.676	5.406	6.293	6.953	6.277	6.936	6.580
Lid, stamp, tally	1.652	.750	.754	1.754	.832	.856	1.303	.571	.578	.970
Stack and load	1.101	.482	.566	1.169	.416	.856	2.135	1.142	.289	.873
Stack empties	---	---	---	---	.416	---	---	---	.578	.050
General	---	---	---	.585	.416	---	---	---	1.156	.372
Hydrocool fruit	---	---	---	---	.832	1.348	---	---	.867	.152
Supervisory	1.652	.969	1.132	1.169	.832	.899	2.172	1.142	.867	1.174
Total	16.791	11.426	13.772	14.615	12.061	12.948	17.777	12.557	14.161	13.811

Table 10.--Labor requirements per packed bushel basket of peaches for the fresh market, 5 Michigan central packing sheds, August-September 1957

Labor requirements	Central packing sheds					
	V	W	X	Y	Z	Average
	Man-min.	Man-min.	Man-min.	Man-min.	Man-min.	Man-min.
Receive	.496	.875	1.475	2.046	1.630	1.304
Dump	.248	.468	.221	.409	.326	.334
Grade	3.129	3.439	2.950	4.421	2.608	3.309
Supply material	.248	.468	.221	.409	.326	.334
Pack	7.991	7.803	7.375	9.357	7.172	7.940
Lid, stamp, tally	1.180	1.171	1.325	1.636	.652	1.193
Stack and load	.504	1.405	1.255	2.046	.978	1.238
Stack empties	.248	.468	.953	.409	.326	.481
General	1.082	.936	2.649	.409	1.263	1.268
Hydrocool fruit	.508	.703	---	---	.662	.374
Supervisory	.744	.479	.453	.818	.978	.694
Total	16.378	18.215	18.877	21.960	16.921	18.469

Table 11.--Labor costs per packed bushel basket of peaches for fresh market, 20 Michigan farm sheds, August-September 1957

Labor costs	Farm packing sheds										
	A	B	C	D	E	F	G	H	J	K	L
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
Receive	2.667	1.054	.500	.547	3.399	1.341	1.494	1.238	.639	1.161	1.237
Dump	1.333	1.054	1.250	.956	1.700	1.341	1.102	1.238	.639	.706	.927
Grade	1.333	2.103	3.000	1.916	1.700	2.681	3.087	2.329	1.281	4.385	1.854
Supply material	---	1.054	---	---	---	---	.882	---	---	---	.927
Pack 1/	13.666	10.409	9.292	4.701	13.598	9.385	8.819	11.207	8.701	8.235	9.276
Lid, stamp, tally	1.780	1.583	1.250	.467	2.266	.670	1.940	1.238	.775	1.548	1.391
Stack and load	.890	1.426	.625	1.084	1.700	.828	1.832	1.238	.639	1.634	1.701
Stack empties	---	---	---	---	---	---	---	---	---	---	---
General	---	.529	---	.547	---	---	1.213	3.575	.492	1.161	---
Hydrocool fruit	---	---	---	---	---	---	---	---	---	---	---
Supervisory	10.000	4.971	5.000	3.832	10.198	4.022	2.646	8.736	2.951	3.439	3.711
Total	31.669	24.183	20.917	14.050	34.561	20.268	23.015	30.799	16.117	22.269	21.024

Labor costs	Farm packing sheds									
	M	N	O	P	Q	R	S	T	U	Average
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
Receive	1.339	1.454	1.415	.726	.624	.749	2.172	.951	.650	1.268
Dump	1.339	1.291	1.415	1.461	.624	.749	2.172	1.189	.289	1.139
Grade	2.683	1.209	1.415	4.385	2.911	2.997	2.172	2.853	2.023	2.416
Supply material	---	---	---	---	---	---	---	.951	---	.191
Pack 1/	8.050	7.896	12.264	5.846	7.763	8.990	8.688	10.700	6.935	9.221
Lid, stamp, tally	1.788	1.000	.944	2.187	1.248	1.427	1.629	.951	.578	1.333
Stack and load	1.192	.643	.708	1.461	.624	1.427	2.669	1.902	.289	1.226
Stack empties	---	---	---	---	.624	---	---	---	.578	.060
General	---	---	---	.726	.624	---	---	---	1.156	.501
Hydrocool fruit	---	---	---	---	1.248	1.498	---	---	.867	.181
Supervisory	5.504	4.844	5.660	5.846	4.158	4.495	9.235	4.042	3.179	5.323
Total	21.895	18.337	23.821	22.638	20.448	22.332	28.737	23.539	16.544	22.859

1/ Packing includes facing, filling, putting baskets on and turning them.

Table 12.--Labor costs per packed bushel basket of peaches for fresh market, 5 Michigan central packing sheds, August-September 1957

Labor costs	Central packing sheds					
	V	W	X	Y	Z	Average
	Cents	Cents	Cents	Cents	Cents	Cents
Receive	.826	1.805	2.760	3.751	3.151	2.459
Dump	.517	.898	.405	.852	.598	.654
Grade	4.495	5.934	5.409	6.262	4.781	5.376
Supply material	.413	.898	.405	.682	.598	.599
Pack 1/	11.718	14.128	13.817	13.703	13.150	13.303
Lid, stamp, tally	2.025	2.245	2.465	2.625	1.196	2.111
Stack and load	.846	2.694	2.355	3.410	1.794	2.220
Stack empties	.413	.955	1.748	.682	.598	.879
General	2.012	1.796	4.967	.682	2.316	2.355
Hydrocool fruit	.846	1.347	---	---	1.212	.681
Supervisory	2.478	2.394	1.659	3.325	3.233	2.618
Total	26.589	35.094	35.990	35.974	32.627	33.255

1/ Packing includes facing, filling, putting baskets on and turning them.

Table 13.--Overhead costs per packed bushel basket of peaches for the fresh market, 20 Michigan farm packing sheds, August-September 1957

Overhead costs	Farm packing sheds										
	A	B	C	D	E	F	G	H	J	K	L
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
Depreciation:											
Building	2.143	3.200	6.250	3.500	7.247	3.205	2.250	9.000	1.053	1.250	1.111
Equipment	5.143	2.560	8.000	5.440	7.247	2.754	2.205	8.000	1.860	2.500	2.222
Insurance	.239	.234	.530	.321	.562	.239	.628	.680	.102	.128	.113
Taxes	.848	.806	1.845	1.120	1.956	.825	.603	2.340	.357	.450	.400
Power	.200	.240	.500	.120	1.167	.115	.300	.500	.085	.250	.167
Repairs	.500	.400	.750	.255	---	1.282	.900	1.000	.426	.075	1.667
Telephone & telegraph	.300	.640	1.000	.300	.533	.192	.625	1.000	.102	.375	.667
Advertising	---	---	.500	.300	1.666	.641	.200	.700	.426	.200	.330
Ice	---	---	---	---	3.333	---	---	---	---	---	---
Total	9.373	8.080	19.375	11.356	23.711	9.253	7.711	23.220	4.411	5.228	6.677

Overhead costs	M	N	O	P	Q	R	S	T	U	Average
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
Depreciation:										
Building	2.500	3.000	6.250	2.083	4.500	1.875	3.750	1.667	18.750	4.229
Equipment	6.444	1.160	3.875	2.230	4.500	5.687	3.600	2.067	14.250	4.587
Insurance	.307	.190	.431	.265	.351	.214	.288	.138	1.354	.366
Taxes	1.030	.064	1.474	.576	1.215	.759	.995	.480	4.657	1.140
Power	.208	.050	.222	.286	.200	.100	.800	.350	.400	.313
Repairs	.208	.200	.444	.229	.500	.625	.375	.750	---	.529
Telephone & telegraph	.250	.030	.133	.571	1.000	.625	.300	.400	1.200	.512
Advertising	.417	.300	.667	.714	.550	.375	2.000	.250	---	.512
Ice	---	---	---	---	10.000	10.000	---	---	3.000	1.317
Total	11.364	4.994	13.496	6.954	22.816	20.260	12.108	6.102	43.611	13.505

Table 14.--Overhead costs per packed bushel basket of peaches for the fresh market, 5 Michigan Central packing sheds, August-September 1957

Overhead costs	Central packing sheds					
	V	W	X	Y	Z	Average
	Cents	Cents	Cents	Cents	Cents	Cents
Depreciation:						
Building	3.871	2.542	5.291	5.315	2.366	3.877
Equipment	1.819	1.785	1.764	1.808	1.046	1.644
Insurance	.909	.771	1.422	1.172	.500	.954
Taxes	1.161	1.031	1.852	1.865	.867	1.355
Power	1.290	2.062	2.071	.595	1.511	1.506
Repairs	.968	1.718	.730	.625	1.444	1.097
Telephone & telegraph	.145	.509	.731	.571	.372	.466
Advertising	.258	1.180	---	.400	2.000	.768
Ice	5.000	6.000	---	---	6.000	3.400
Miscellaneous	.234	.195	.302	.076	.140	.189
Total	15.655	17.793	14.163	12.427	16.246	15.256

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