A STUDY OF CENTRALIZED AND DECENTRALIZED PREPACKAGED MEAT OPERATIONS

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William H. Carey, Jr.

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THESIS

This is to certify that the

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A STUDY OF CENTRALIZED AND DECENTRALIZED PRICE-CHANGED MEAT OPERATIONS

by

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Finally, as in everything, I owe most to my wife, without whose tireless endeavor in typing and preparation this work would never have been completed.

The Author

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CHAPTER I

INTRODUCTION

Purpose of Study

The purpose of this study is to set forth examples of three methods that are being employed in packaging meat products for sale in self-service meat stores or departments. Firstly, consideration is given to the prepackaging which is being done at the retail level by individual retail stores or super markets. Secondly, since an ever-increasing number of chain stores are using a centralized prepackaging operation, where all meat for a number of stores is packaged at a central location or warehouse and distributed to the various stores, this system has also been studied. Finally, meat packers and processors in their role of suppliers to the meat retailing industry are considered. The packers, being well aware of the potential gains to be made through prepackaging, are currently offering a substantial portion of their products in packaged form. Any study of this nature should certainly include some of the prepackaging techniques being employed by the meat packing industry.

The so-called case history form of presentation has been used in an effort to focalize attention on the endeavors of specific companies that have lent considerable stature and

prominence to the prepackaging field. They may be regarded in many respects, as the pioneers in their particular area of endeavor. Since large chains store organizations, by their very nature, differ greatly from small chains, cognizance of this fact has been taken and illustrations of some of the prepackaging endeavors of small chains have been included in the sample. Size has not been regarded as a criterion of efficiency.

Throughout this manuscript emphasis has been placed on techniques and methods used in the operations cited. Results in terms of cost figures, sales figures, et cetera have been presented when they were available. If, on the other hand, they were not readily obtainable, they were omitted because of necessity.

Source of Data

To this writer's knowledge there are few if any learned treatises or books written on the subject of prepackaged meat. There is, however copious information on this subject contained in many of the trade journals and publications that serve the food industry. Therefore, it was deemed advisable to draw heavily from these publications in an effort to secure pertinent up-to-date data on what is currently being accomplished in this rapidly changing and dynamic business.

In addition, a considerable amount of correspondence was exchanged with trade publication editors, machinery and equip-

ment manufacturers, self-service meat display case manufacturers and self-service meat consultants. Replies to these inquiries were, indeed, rewarding and provided an excellent source of pertinent information.

The Grand Union Company of New York City and in particular Mr. Gerald Kreger also aided considerably in furnishing material on some of the methods used by this company in their prepackaged meat operations.

Definition of Terms

References are made, throughout this thesis, to large volume stores or super markets. Thus, it would be well to define a super market. In its requirements for membership, the Super Market Institute defines a super market as a departmentalized retail establishment having the four basic food departments: Self-service grocery, meat, produce and dairy and having minimum annual sales of $250,000.[1]

Also for those who are not completely familiar with the term "centralized operation", as it applies to a chain store organization, the following explanation is tendered: Meat which is ordered to fulfill sales requirements is delivered to a central plant usually located in or in close proximity to the chain's warehouse. All cutting, packaging and storing

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1. William H. Albers, Food Marketing (New York: McGraw-Hill Book Company, Inc., 1950), p. 41.

is done in this central plant by a specialized crew using all possible labor-saving devices and equipment.

Meat orders from the retail store managers are received, prepared, and shipped to the stores by either refrigerated or non-refrigerated trucks. Delivery days are staggered so as to provide the greatest efficiency.

Certain variables may be considered in determining the amount or kind of meat products that are to be prepackaged centrally. As in the case of the operation described in Chapter IV, it may not be advisable to prepackage a complete line of meat products, but merely certain types of merchandise such as cold luncheon meats or sausage products. This is especially true in relation to a large chain operating a substantial number of large volume stores in a densely populated area.

Limitations

There is a great deal of divergence in the size, location and managerial attitudes of the entire group of chain store companies in this country. As a matter of fact, some chains are still not firmly convinced that self-service meat is particularly applicable to their type of business and therefore continue to merchandise meat by the old time-worn and established service system. Therefore, to belabor the point of whether or not meat should be prepackaged in a

central location to a person who is not at all convinced or even impressed with the advantages of self-service meat seems irrelevant. However, there are many chains and individual operators who are firmly convinced about the future of self-service that would like to know the answer to this question.

It is to those people, who firmly believe that self-service is the best way to merchandise meat that this manuscript is directed.

CHAPTER II

THE GROWTH OF SELF-SERVICE MEAT

In order to understand better this relatively new method of merchandising fresh and cured meat a short explanation of the growth of self-service is noteworthy at this time, in order to acquaint the reader with the phenomenal acceptance that has greeted self-service by the consuming public as well as the great number of grocery retailers, who have seen fit to adopt it.

Prior to World War II there were less than ten stores in the entire country pioneering in this new merchandising technique. The war years necessarily held up further development and expansion as equipment and materials were diverted to mobilization needs. By the Spring of 1946 more equipment became available and a few more stores were added to the original handful. By April, 1947 the number had increased to seventy.

In the Spring of 1948 the Research Department of Armour and Company sent a questionnaire to the entire Armour sales organization, asking for the names and addresses of all retailers operating on a 100 percent basis in their meat departments. At the same time certain other information was

obtained about each individual operation.[1]

As of April 1, 1948, Armour and Company was able to locate 178 stores operating on a self-service basis. It was agreed that a number had been missed at the time. Further investigation revealed that the number was somewhere over two hundred. This survey was made on a complete nationwide basis by the entire Armour and Company sales organization.

As of September 1, 1948, a subsequent survey taken in the same manner as the original survey revealed that the number of stores operating on a self-service basis had increased to 391, or about double the number on April first of the same year.

Of the 391 stores mentioned, California showed the largest number with 67, and Texas was second in ranking with 31 and New York State was close behind with thirty.[2]

Among the cities, the greatest cluster of self-service meat stores was in New York, Philadelphia and Los Angeles. There was also a cluster in the Phoenix-Tucson area and in Denver and Indianapolis.

On the other hand, Chicago and St. Louis did not have

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1. ibid., p. 131.

2. Walter Shaeffer. "Analysis of Trends in Connection With the Sale of Some Meat Products." The National Provisioner. 19 (October 2, 1948), p. 130.

any self-service meat operations as of April 1, 1948. This fact was traceable to union opposition existent at the time. Self-service still has not come into Chicago because of this same union situation.

In order to substantiate the findings of the Armour and Company Survey the results of an additional and entirely independent survey made by the Marketing Research Branch, Production and Marketing Administration, United States Department of Agriculture is cited.[3]

Only about four hundred stores had self-service meat departments when this survey was made in November and December 1948. Of the 97 stores which they actually surveyed and gathered facts from, 88 were found to be less than two years old, and 61 of these were less than one year old. The surveyed stores were located in eighty cities in 27 states and the District of Columbia. Independent operators owned 32 of the 97 stores and 65 stores were owned by thirty-four chain store companies. Of the 97 stores, 93 sold from 95 to 100 percent of their meat and meat products by the self-service method.[4]

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3. U. S. Department of Agriculture, Production and Marketing Administration, Marketing Research Branch. "Retailing Prepackaged Meats," Washington 25, D. C. December 1949. p. 2.

4. ibid., p. 2

Thus, it is seen that these two different surveys taken at the close of 1948, both revealed that the number of self-service meat operations, as closely as could be determined in a nation-wide poll of this type, was in the neighborhood of four hundred units. This was an appreciable growth in number over the 178 stores using self-service meats that were found in April, 1948 and indicate the definite beginning of a trend which shall be investigated further.

With the same purpose in mind of determining the swing to self-service meat, Armour and Company repeated this same survey by the questionnaire method through their sales organization in 1949 and 1950. As of April 1, 1949 there were 878 complete self-service meat operations and the figures revealed that for 1950 the number had increased to 1983.[5]

According to this most recent tabulation (1950) made by Armour, New York State led in number of self-service meat outlets with 213, followed by Texas with one hundred and fifty, Ohio with One hundred and forty, Florida with 128, and Pennsylvania with 125. California with 111 was sixth in ranking, whereas in 1949 it was first.

Figure 1 illustrates diagrammatically the growth of self-service as compiled by the Armour and Company Research Organi-

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5. Armour and Company. "Meat Retailing in 1950". Chicago: Armour and Company, 1950.p. 9

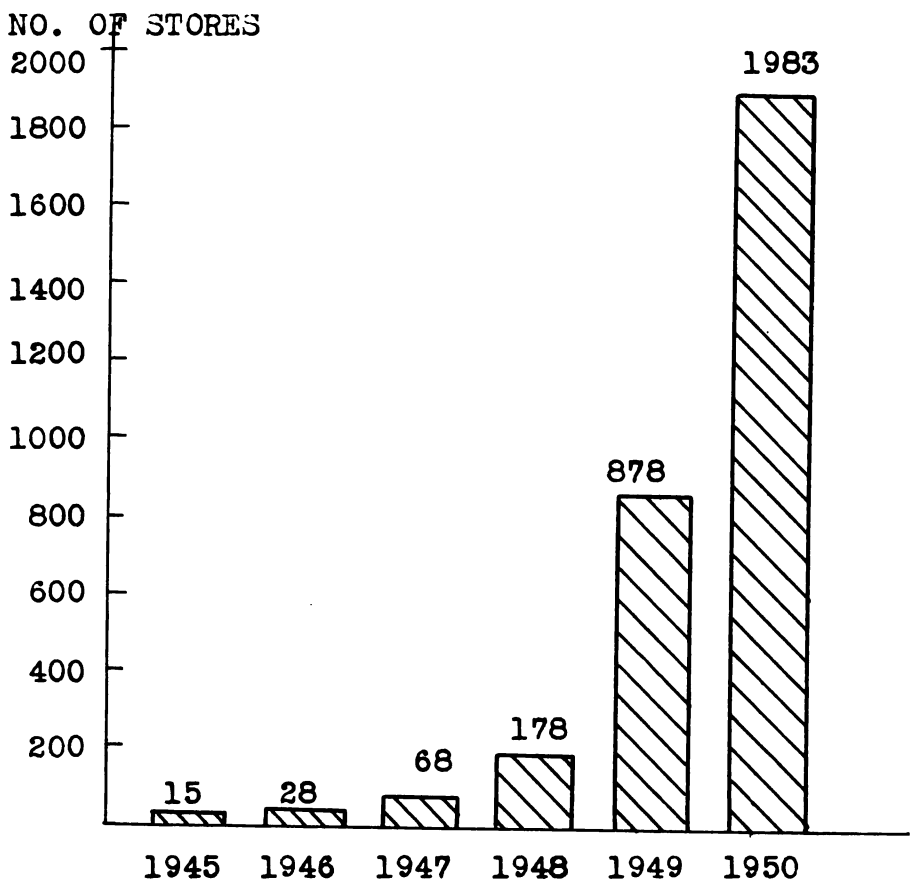

Fig. 1. GROWTH OF SELF-SERVICE

zation. The figures given reveal the increase in number of self-service meat outlets from 1945 to 1950 inclusive.

The greatest growth during 1950 was in the Northeastern and Middle Western sections of the country. The Northeast jumped from 41 complete self-service stores in 1948 to 685 as of April 1, 1950. The Southeast and Southwest had also expanded greatly.[6]

The Pacific Coast, on the other hand, showed very little expansion in self-service stores between 1949 and 1950. New self-service stores sprang up in California, but because of reconversions and going out of business, the total number in that state remained about the same.[7]

Figure 2 shows the growth of 100 percent self-service meat stores by regions in the years 1948, 1949 and 1950. A comparison of the figures will illustrate very clearly the rapid growth evidenced in the Northeast and Middlewest, as well as the Southeast and Southwest.

Large chain-store companies have moved very rapidly into self-service meat. As of April 1, 1950, one out of every two complete self-service stores were operated by a large chain. Based on their announced plans, it is probable that these operators will continue to account for an increasing proportion of all self-service stores.

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6. ibid., p. 15.

7. ibid., p. 16.

REGIONS	1948	1949	1950
NORTHEAST	41	300	685
MIDDLE WEST	29	155	521
SOUTHEAST	10	93	275
SOUTHWEST	27	92	215
PACIFIC COAST	47	137	145
ROCKY MOUNTAIN	24	101	142
TOTALS	178	878	1983

FIGURE 2. GROWTH OF 100 PERCENT SELF-SERVICE MEAT STORES BY REGIONS

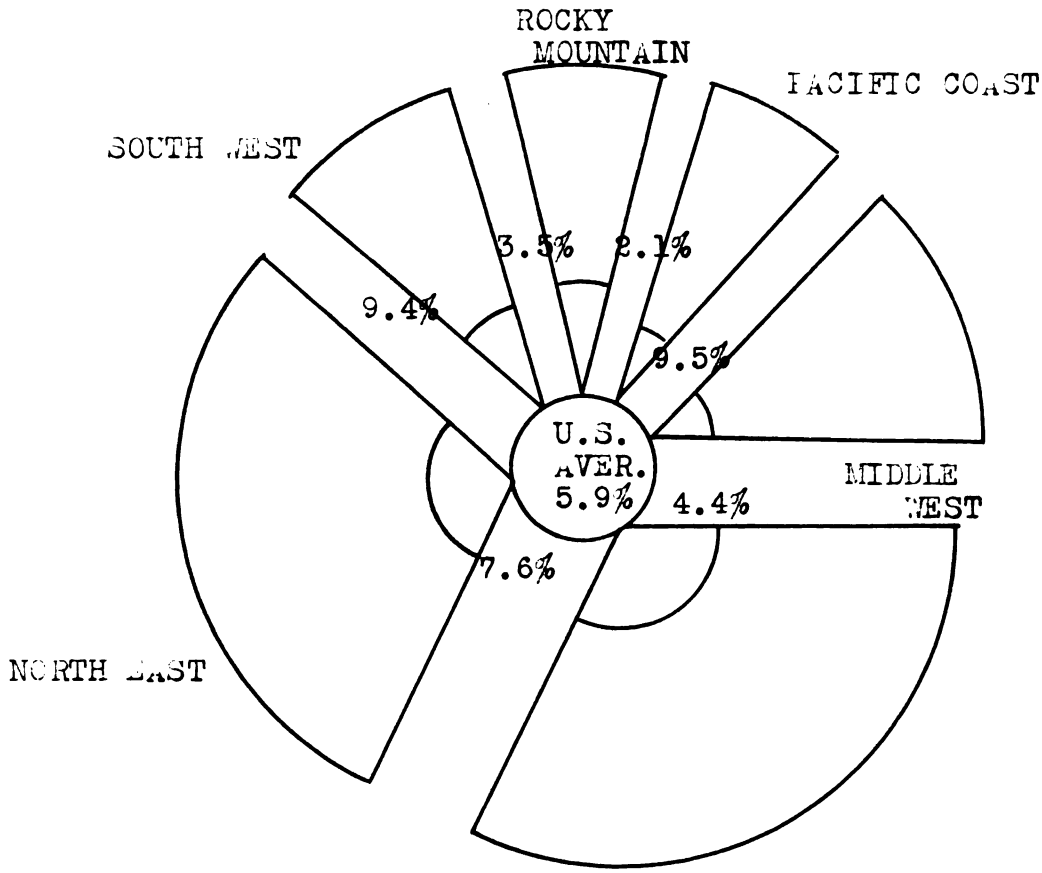

Fig. 3. SELF-SERVICE STORES DO 6 PERCENT OF TOTAL RETAIL MEAT BUSINESS

Small chains doing less than twenty million dollars business annually, had just about held their own and had accounted for about 20 percent of all self-servide meat stores as of April, 1950.[8]

The independents, while they expanded, did not expand nearly as fast as the large chains, and their proportion dropped steadily from over three-fourths to less than one-third of all self-service meat stores.

The two thousand self-service meat stores represented only 1 percent of all food stores handling fresh meats, yet they did 6 percent of the total retail meat business. A regional breakdown of this percentage of the total meat sales is shown in Figure 3. Again it was revealed that the Northeast and Middlewest were garnering a substantial amount of this self-service meat business.

The Armour survey further revealed that 20 percent of the total self-service stores had weekly meat sales of $6,000, to $10,000 and 14 percent did $10,000 and over in business per week.[9] This fact coupled with the knowledge that one out of every two did a meat volume of $2,000 to $6,000 per week certainly pointed out the fact that they were supermarkets in every sense of the word.

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8. ibid., p. 15.

9. ibid., p. 19.

An added basis for comparison of the relative growth of self-service meat is evidenced in a questionnaire survey conducted by the Super Market Institute in January 1950.

Replies to these questionnaires were received from 259 companies or 67 percent of the membership. These companies operated a total of 2,755 super markets and 823 other retail food stores with aggregate sales of more than $2,000,000,000 in 1949. The respondents were regarded by the Super Market Institute as being representative of the membership as a whole.[10]

The findings of this survey may be looked upon as valid for the entire super market industry, as the membership is believed to be fairly typical of all supermarket operations, even though the five largest grocery chains are not represented.

It was found, among reporting members, that self-service in meat departments had made rapid strides in 1949, as 54 percent of the companies installed self-service in 16 percent of all the meat departments operated by the Super Market Institute membership. Complete installations outnumbered partial installations. As a result of these additional installations, 71 percent of Super Market Institute members now operate self-service meat departments in 44 percent of all the Super Mar-

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10. The Super Market Institute. "The Super Market Industry Speaks". New York: The Super Market Institute, 1950, p. 2.

kets. Of these, 23 percent are partial self-service and 21 percent are complete.[11]

The largest companies with sales above $40,000,000 had the largest percentage of complete self-service meat installations. Twenty-eight percent of all their supers are so equipped. These companies operate very few partial self-service meat departments.

It was also indicated that self-service meat may be found in the majority of new super markets opened in 1949. There was a complete self-service installation in 41 percent and partial installation in 33 percent of the new supers.

This survey also revealed pronounced regional differences in the extent of self-service meat; but even in the regions which lag behind, most new supers opened with some form of self-service meat.

Since the questionnaire was arranged to garner information on the succeeding year of 1950, some additional, interesting data was revealed. Definite plans called for additional self-service meat installations in 1950. Over half of the companies (54 percent) planned to install self-service meat in 18 percent of all Super Market Institute super markets that would be in existence by the end of 1950. Complete self-service installations were favored over partial

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11. ibid., p. 20.

installations. They represented 66 percent of the total planned installations for the year 1950, compared with a figure of 55 percent in 1949 and only 25 percent in 1947.[12]

Complete self-service installations were favored over partial installations. They represented 66 percent of the total planned installations for 1950 compared with 55 percent in 1949 and only 25 percent in 1947. Figure 4 illustrates graphically the gradual preference for complete self-service meat by Super Market Institute members. As was true in 1949, three-fourths of the new super markets are scheduled to open with self-service meat. The new super markets were supposed to account for two-thirds of all self-service meat installations in 1950, while the other one-third would be in old super markets, generally as part of a major remodeling.

The Super Market Institute Research Department felt, therefore, that on the basis of the facts gathered from their extensive survey of member companies, by the end of 1951, a substantial majority of the member companies' super markets will have self-service meat, and that there will be more complete than partial self-service meat departments.

The actual figures compiled by the Super Market Institute Research Staff from a survey made in 1950 in the same manner as the 1949 survey reveal that the predictions and

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12. ibid., p. 21.

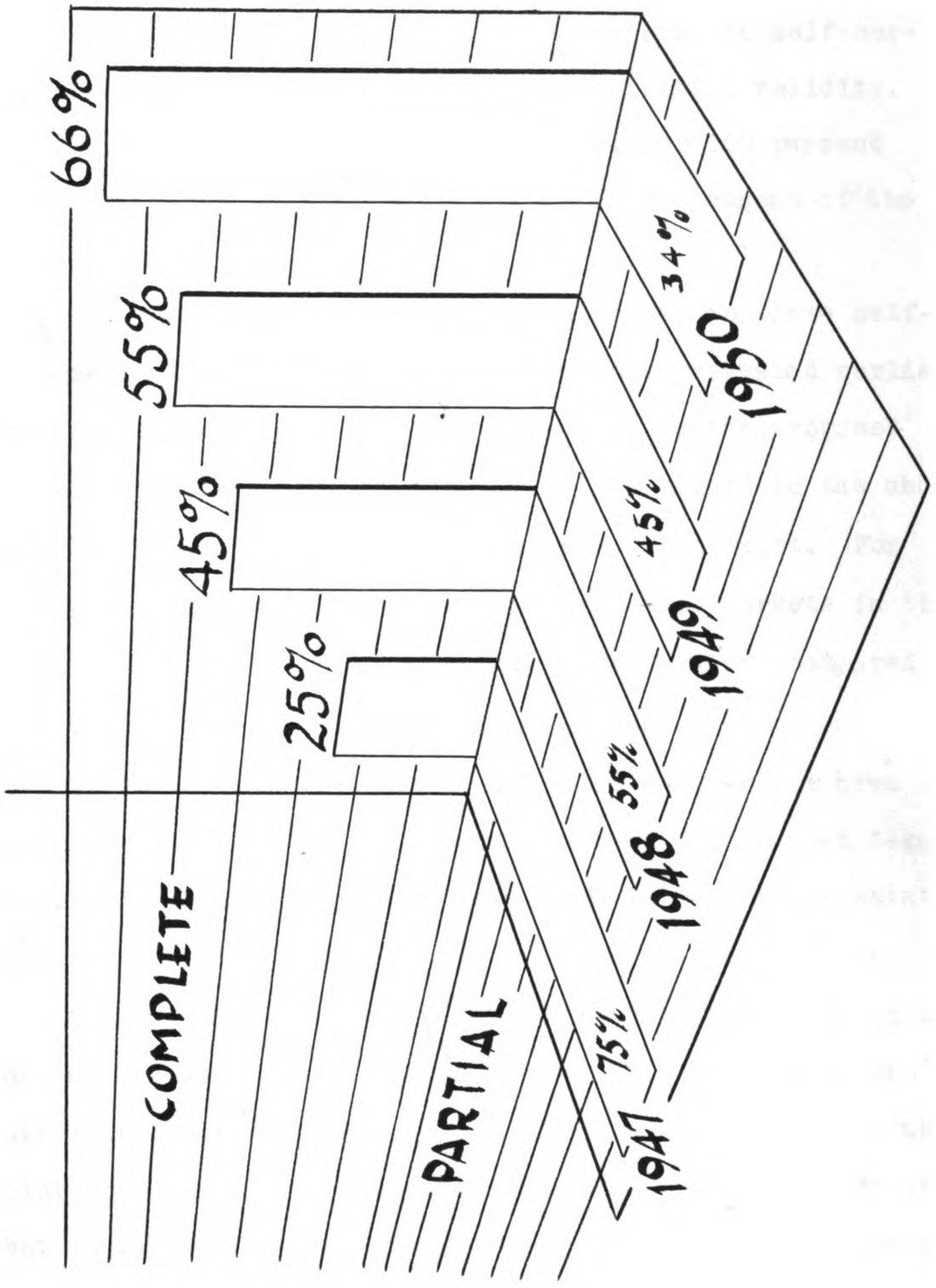

Fig. 4. GRADUAL PREFERENCE FOR SELF-SERVICE MEAT BY SUPER MARKET INSTITUTE MEMBERS

anticipations of their membership in regards to self-service meat in new installations had substantial validity.

The new stores of 1950 featured either 100 percent self-service or partial self-service in 79 percent of the new openings.[13]

The regional trends in distribution of complete self-service meat departments corroborate those revealed earlier in 1950 by the Armour and Company survey on the progress of self-service meats, particularly with regard to the shift in self-service activity from the West to the East. For instance, only 10.5 percent of the new super markets in the Pacific area incorporated complete self-service, compared with 66.7 percent in the Middle Atlantic.

There is also a direct correlation between the size of the market and the extent of self-service in the meat department. The small markets recorded a 20 percent representation compared with 76.9 percent for the largest ones.[14]

Thus we see that from a relatively humble origin in the post war years when but ten retail stores could boast of this type of merchandising, self-service has evolved to the point where it may be assumed, with substantial justification, that it will no longer be feasible to open a large one-stop

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13. Anonymous. "Super Industry Tops Record." Super Market Merchandising. (March 1951), p. 41.

14. ibid., p. 42.

super market without first considering the installation of a self-service meat operation.

CHAPTER III

GRAND UNION COMPANY

The Grand Union Company of New York was one of the first of the large chains to adopt a 100 percent self-service meat department wholeheartedly. For this reason a perusal of some of the methods and practices employed is worthy of note.

At the present time approximately 65 percent of Grand Union's total meat business is done in one hundred and five self-service meat departments. This is a figure, which this writer believes, cannot be matched by any chain of comparable size.

Self-service meat departments were first installed in 1940. The initial success and expansion were curtailed by World War II. However, with the cessation of hostilities and the appearance once again of display cases, equipment and materials, the company resumed installation of self-service meat departments. Customer acceptance and the utilization of proper packaging, displaying and merchandising techniques are three of the most important reasons for the success of the Meateria departments.[1]

Grand Union operates a total of 288 stores. The majority of these stores are in the Greater New York Metropolitan area.

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1. Meateria is the name used by Grand Union Company for self-service meat departments.

Additional stores are located in the surrounding states of Pennsylvania, Connecticut, Massachusetts and Vermont. Total sales for the fiscal year 1950 were slightly in excess of $160,000,000. These figures, when coupled with the fact that 65 percent of total meat sales are made through the Meateria departments, reveal the magnitude of this particular segment of the business.

The following is a resume of some of the successful measures and controls exerted by Grand Union Company in their highly successful Meateria Departments:

Store Layout

The space allocated to a Meateria Department will differ according to the size and shape of the store. This is also true about the position of the department within the store. Within limits, however, certain standard procedures are followed in the organization of a Meateria Department.

There are four main areas to be considered. The cooler for storage of wholesale cuts and consumer cuts which are conditioned before wrapping;[2] the cutting area, where meat cutters process and break wholesale cuts into retail and consumer units; the wrapping room, where all meat is prepackaged and priced be-

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2. Grand Union follows the policy of storing unwrapped consumer cuts in a holding cooler at a temperature ranging from 32 degrees depending upon the cut of meat. This results in a so-called "bloom" that adds immeasurably to the appearance of the meat.

fore removal to the display case and finally the all-important display case that is located in the sales area of the store.

Ideally, the location of each of these specific areas complements the remaining areas. That is, the cutting room adjoins the wrapping room and the cooler is placed so as to be readily accessible to the cutting room. Incoming merchandise is conveyed to the cooler where it is either broken into retail cuts or stored for future processing. As the need arises the meat is removed from the cooler to the cutting room and converted to consumer cuts. From the cutting room, the meat is quickly transferred to the packaging area where women employees weigh, wrap, label and price each individual cut of meat. The woman who does the weighing writes the price on either a thermoplastic or a grease proof label, puts the label on the meat and places the meat on a moving belt. The wrappers then take the meat from the conveyor belt, place the label on the inside of the cellophane material and wrap the product. If thermoplastic labels are used, they are heat-sealed to the outside of the package after it is wrapped. The package is then replaced on the conveyor belt and moved to the end of the table where it drops into a basket. From there the product is either displayed in the self-service case or placed in storage until needed.

Several tables with conveyor belts may be used, depending upon the amount of a product that must be packaged. Some markets use different tables for wrapping different products, such

as: one table for luncheon meats and one for cheese.

In order to get maximum efficiency in the packaging section, all the component parts of the package are placed at the operator's fingertips. Sufficient material to be packaged is kept flowing to the wrapper so that she can wrap the maximum amount or number of packages without leaving the packaging bench.

To attain greatest efficiency, the work bench is designed to keep the entire wrapping table free of any packaging material. This material is either placed on shelves near the table or in drawers located in the work bench. Each operator's wrapping space is planned to be a complete unit within itself, with all packaging equipment and supplies in easy reach.

The self-service display case is, of course, the most important piece of equipment used in the Meateria Department. The question of where the meat display case is to be located is decided by the size of the store and the weekly meat sales figures. In many larger volume stores one complete side wall of the store is devoted to meat display cases. In smaller volume stores it has been the practice to locate the Meat Department across the rear of the store. This arrangement is especially good for supplying the display case from a rear, backroom position. When the display case is located along a side wall of the store it must be supplied from the front. In this situation the cutting and packaging room is located in the rear and on the same side of the store as the display case.

Packaging

The actual heat sealing of packages is done either with hand irons or hot plates. The hot plates are immovable and are seated in the work table. The irons and hot plates are thermostatically controlled to hold an average heat of 325 degrees. Bulky and awkward sized packages are sealed most easily with a hand iron. Smaller, more uniform packages such as luncheon meat units are easier to seal with a hot plate.

Since both cellophane and pliofilm are used to wrap products, a different temperature is used for each. On cellophane the iron can be slid over the film to seal it in one smooth motion. With pliofilm the iron cannot be passed over in this manner without melting the pliofilm. Therefore, the iron must be placed or spotted on the seam and removed quickly to make a sort of spot weld.

Care is taken that the right type of cellophane is used on fresh meats. This material is known as MSAT Number Eighty used on fresh pork, veal, lamb and beef. One side of the MSAT Number Eighty has been treated to prevent discoloration of the meat and it is the only side that is placed next to the meat. When pliofilm is used either side may be placed next to the meat since both sides are the same.

MSAT Number Eighty will curl when exposed to either high or low humidity. Rolls and sheets are kept carefully wrapped when not in use. The film is manufactured to remain flat when in contact with about 60 percent relative humidity.

Cardboard or board stock are used on the back of fresh meat packages. The board not only adds rigidity to the package, but provides a flat surface for heat sealing. The board backing also prevents the heated iron from searing or harming the meat in any way. The board stock is odorless, tasteless and moisture proof.

Trays or blown pulp cartons are used for such meats as hamburger, stewing beef and poultry. The trays are high and allow maximum visibility. They are also odorless, tasteless and non-absorbent. The most widely used size is five inches by five inches.

In addition to the word "Bonded", that appears on the label and is used for coding purposes, the following information also appears on the label; name of the company, name of the item, the weight, price per pound and the total price of the package. These markings afford the customer helpful information in making a decision about any cut of meat she might desire. The inclusion of the price per pound designation is very important and company policy demands that this price be marked clearly on the label.

Merchandising and Display

Store layout, packaging and equipment are all factors subservient to proper display. Attractive and well-rounded displays are an absolute necessity in a profitable Meateria Department. In order to accomplish attractive and appealing

displays, Grand Union Company has employed several merchandising techniques.

To control the freshness of merchandise a code is used. This code is simple to understand, yet has no significance to the customer. The word, "Bonded", which appears on every label is used. A pencil line can be drawn through a different letter each day to indicate when the merchandise has been wrapped.

B	Monday
O	Tuesday
N	Wednesday
D	Thursday
E	Friday
D	Saturday

For example, if a package is wrapped on Wednesday a line is drawn through the third letter "n" as Bonded.

Rewraps bear the same coding as the original wrapping except that the letter "R" is placed on the upper right hand corner of the label to indicate that the package is a rewrap.[3]

Packages are placed in the display case so that they may be inspected by the customers with a minimum of handling. An attractive display is maintained by frequently rearranging packages that have been left out of place. Packages are also rotated to encourage sale of the older packages first.

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3. Rewraps consist of those packages which become torn or unsightly. They must be sent back through the packaging process for a new cellophane wrapping before they may be displayed again. Since this is a costly procedure every effort is made to keep the number of rewraps as low as possible.

These functions are performed by the hostess, who is integral part of any Meateria Department. By proper rotation of packages in the display case and in the storage departments and by timely orders to the cutting room for merchandise to replenish the display, the hostess increases turnover and reduces the danger of discoloration. Also, packages having torn cellophane or pliofilm start to discolor at once. Therefore, it is necessary for the hostess to be constantly alert for such torn packages and remove them for rewrapping immediately.

Hostesses are carefully selected and trained. They are the important human relation link between the customer and the company in the Meateria Department. The filling of this position and the training the hostess receives are important. In addition to being socially minded and of an amiable nature the hostess must have a knowledge of meat cuts, products and cookery. As well as having display ability she should also be capable of suggestive selling. In the matter of special cuts, the hostess must understand what the customer wishes and she must be able to relay this information to the meat cutter in an intelligent manner.

In order to maintain freshness control in meat displays Grand Union Company has set up a control chart in each store which acts as a guide to managers. The chart provides information on the amount of meat by cuts that should be displayed on any given day of the week. While this varies slightly from store to store, close adherence to the amounts stipulated in

the control chart has resulted in a minimum of packages that have to be removed from sale, trimmed and sold as cheaper cuts.

Arrangement of the meat display has a direct bearing on sales. There are many schools of thought on this subject and just as many arrangement schemes as there are schools of thought. However, Grand Union Company has had significant success with an arrangement set up according to cooking classifications. Steaks, roasts, chops, et cetera are grouped together. Steaks are at the end of the case where the customer begins her purchases and delicatessen items are at the extreme end where the customer concludes her shopping visit.

Roasts and heavy cuts are limited during the early part of the week. Emphasis is placed on chops and steaks. Near the end of the week the heavier cuts that are in demand are made more plentiful in the display cases.

When the customers ask for special cuts, personnel is assigned to handle these requests at once. The special orders are wrapped in cellophane to avoid the impression that preferred customers are getting the choice cuts. A check is made on special requests so that they may be included in the regular line-up of merchandise, if there is sufficient demand.

Luncheon meats are displayed in such a manner as to minimize the light exposure to the product surface. This is accomplished by stacking the packages one on top of the other so that only the top is exposed.

Personnel

Personnel required for the packaging operation includes cutters, weighers, labelers and wrappers. To coordinate the activities of operators, an efficient manager is necessary. The manager has a definite schedule and job for each operator. He must anticipate buying habits of the customers each day and submit a list of products to the cutter at the beginning of each day.

In addition the manager resumes full responsibility for ordering of all merchandise and supplies. He is an expert merchandiser, who controls the flow of the various cuts of fresh meat so that he moves every part of the carcass.

The concentration of the work force and the division and assignment of certain tasks to particular individuals provide the manager on excellent opportunity to supervise every detail of the operation.

The meat cutter in a Meateria operation does not have direct contact with the public. He is, therefore, as equally interested in production as he is in sales. He can perform his duties completely undisturbed by requests from customers, and in this way he can concentrate his efforts and increase production rates accordingly. Since the meat cutter is the main cog in the production process, he must see that a steady flow of meat products is available for packaging at all times. He is chiefly responsible for the production tempo at any given time.

Scalers and wrappers are chiefly concerned with proper weighing and packaging procedures. A scaler must be extremely careful in determining the unit price for each package she weighs. Likewise, the wrapper is equally careful of the overwrap which she places on the package.

Because of the monotonous nature of these two jobs it has been the practice to alternate the women between these two tasks. This helps to alleviate the monotony and to reduce fatigue.

There is very little difference in the relation of labor cost to sales between self-service and service operations. The chief advantage has been in the increased sales that have accompanied the installation of Meateria Departments.

This fact, coupled with an awareness that customers have shown and continue to show a remarkable acceptance for self-service meat, has led Grand Union to consider the Meateria Department as an integral part of any new stores that are opened in the future.

CHAPTER IV

A CENTRALIZED OPERATION

While there are not many centralized prepackaging meat units in operation at the present time, which are being operated by chain store organizations there are in existence, an ample number to provide a basis of comparison with the very numerous and profitable prepackaging operations being conducted in the individual retail stores by chains as well as independents.

There is a difference, of course, in the volume of meat being prepackaged at the central plants and the extent to which machinery is being utilized. There is also a distinct difference in the nature and number of meat products, that various chains deem advisable to prepackage. For instance, a small chain operating five to ten stores might achieve the greatest efficiency and economy by prepackaging their entire line of merchandise. This would include all fresh beef, pork, and veal, as well as, smoked meat, cured meat, poultry and all prepared luncheon meat. On the other hand, larger chains with an abundance of stores located in a specified area, have found it more advantageous to prepackage only smoked and cured meat, prepared luncheon meats and bacon at their central plant. The remaining fresh meat, poultry and offal products are then

prepackaged in the individual stores. The reason for this partial prepackaging at the central plant is twofold. First, the experimentation with prepared and cured meat offers a fine basis of comparison for what might be done with fresh meat at a later date. Secondly, the pilot operation provides valuable experience about technical difficulties as well as arriving at correct assumptions about the most advantageous amounts of labor and machinery to be used to achieve optimum output.

Most chain stores, at the present time, are packaging a great share of their luncheon meats at store level. A certain percentage of these packaged items are purchased from the packer, but in the main, bulk products are purchased and packaged in the stores. Any chain organization or any cooperative unit which has a large enough volume in these products is much better off economically to do its own packaging in a central unit.

By the use of a trade mark or trade name on the package, a chain can develop its own preferred product and sell it instead of a packer branded merchandise. The chain thus increases its profits and prevents competition from cutting price on the product that it has developed.[1]

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1. Ezra Lapides. "Technical Aspects of the Central Plant for Cold Meats and Cheese". Miller and Miller, Inc. Atlanta, 1950. p. 2.

A large national chain now has in full operation a prepackaging plant capable of supplying all the bacon, smoked ham, smoked picnic, sliced luncheon meat and ring and chunk portions of such items as bologna, liverwurst and salami requirements to eighty-five self-service stores in the Detroit area. This pilot operation, looked upon by many experts in the food merchandising field as the foremost of its kind, has drawn widespread attention. A perusal of some of its aspects is, indeed, worthy of note.

The production setup is divided into four distinct sections. One production line is devoted exclusively to bacon slicing, weighing, wrapping and packing.

Sliced Bacon Line

Figure 5 illustrates the arrangement of machinery, the positions that the workers assume in relation to the conveyor belt and the flow of bacon from the point where it is first fed into the slicing machine, to the point where it is placed in boxes and readied for shipment to the retail stores.

At the extreme left of the production line there are skids, upon which pork bellies are placed and readied for insertion into the automatic slicing machine. It is the responsibility of one man to see that there is always a sufficient amount of bellies on hand to assure a steady flow of material for the line. He makes use of a hand lift to reduce the number of times the bellies must be handled. Thus, they need only be handled once from the time they are placed on the

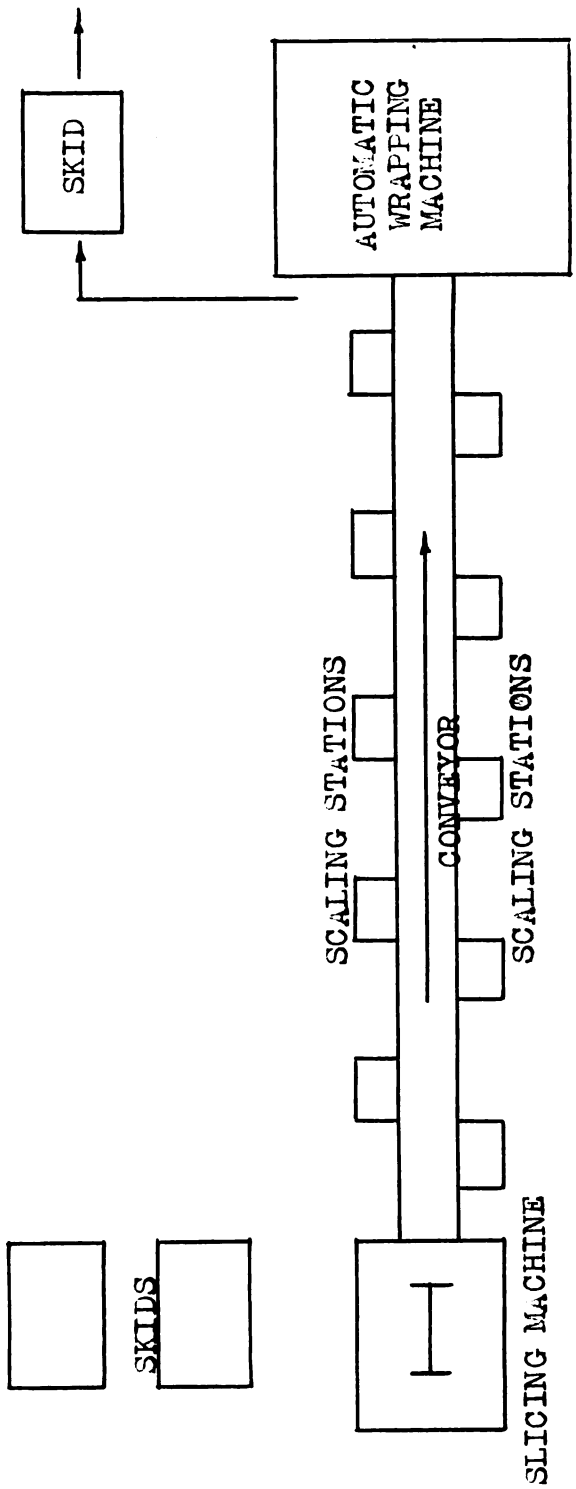

Fig. 5. SLICED BACON LINE

skid in the storage room until they are ready to be put in the slicing machine. A woman worker operates the slicing machine. Her duty merely consists of removing a belly from the nearby skid and inserting it into the slicing machine at intervals, which will assure a steady flow of the sliced bacon. On the other side of the slicing machine another woman worker is stationed to divide the sliced bacon, as it moves from the slicing blade, into units of one pound. She must approximate the number of slices that go together in making up a pound, however, repetition and constant practice enable her to come very close to the exact number of bacon slices needed in each pound. After the bacon has been separated in this manner it proceeds along a continous conveyor belt. Five women are stationed on each side of the conveyor belt and remove the segments of bacon as they pass their station. These women are seated and each is afforded a scale upon which she weighs each portion of sliced bacon that she removes from the conveyor. Incidentally, the scaler, places the bacon on a piece of cardboard backing before she puts it on the scale. The scale is adjustable and allowance is made for the additonal weight of this cardboard backing.

The scales are not calibrated. There is but one marking on the scale and when the pointer is zeroed on this mark, the scaler knows that exactly one pound of bacon is on scale.

Each scaler keeps a small reserve of slices in front of her so that she can add or subtract from the original amount of bacon that she has taken from the conveyor, in order to arrive at a one pound unit.

After making absolutely sure that the package meets the weight requirements, the scaler then replaces the package on the conveyor belt. The belt carries the packages to the end of the line where it is fed into an automatic Oliver wrapping machine. This highly versatile machine wraps the package in a very neat cellophane covering and seals the price tag on the outside of the package. A special device on the machine also provides the required price markings on the label.

As the packages of bacon emerge from the machine and slide down a gravity chute an operator places them in cardboard containers in lots of one dozen. Then, the cardboard containers are placed on skids preparatory to being removed to the refrigerated holding or storing room.

Providing that the line is operating smoothly and the two machines are functioning properly the maximum production that can be expected is two thousand pounds per hour. With an eight hour shift this would mean a daily production of sixteen thousand pounds. With a five day work week the maximum weekly production would be in the neighborhood of ninety thousand pounds of bacon.

This maximum production has not been realized, however. At certain intervals the packaging machine is liable to jam and hold up production for short periods. For obvious reasons it is not possible for every scaler to remain at her station every minute of the work day and these absences naturally slow the line down in accordance with the amount of time lost by these absences. Also the workers as humans tend to tire at this rather monotonous task. While time checks have shown that at certain times a production of two thousand pounds is realized, the average amount processed and boxed in an hour varies between 1,450 and 1,500 pounds. This results in a total of approximately 12,000 pounds for an eight hour shift.

Including one supervisor and one man to feed materials and then remove the finished product once it has been packaged, it requires 15 people to operate this line.

If pig bellies were a standardized product it is quite plausible that this operation could be stepped up considerably. The product would go through the machine and the slices could either be counted to yield an exact pound or scales could be utilized to reach the same result. Since this is not the case and pig bellies vary greatly in size and weight it is necessary to maintain ten scalers in order to obtain th correct weight of each package. The one control exerted to keep the problem of correct weight minimized is to use only bellies that weigh from ten to twelve pounds.

The continued existence of this bacon packaging line testifies to its efficiency. Evidently, the advantages of packaging their own bacon greatly outnumber the advantages of procuring bacon already packaged from a packer. One of the prime advantages, in addition to the cost factors, is the possibility of quality control. Only bacon of the highest quality is used. This coupled with the sanitary measures used in packaging all along the line results in what this particular chain considers a superior product.

Smoked Ham Line

The second product processed and packaged in the plant is smoked hams. This is done on a separate production line and utilizes the Cryovac Process of vacuumized packaging, developed by the Dewey and Almy Chemical Company. This is an exclusive method of vacuum packing in a transparent bag, in which the bag is made to cling tightly around the product. The Cry-O-Rap bag used in the process is made from a special Dewey and Almy - Dow Saran and possesses the unusual property of being able to shrink in size up to about 30 percent. This gives a skin-like wrap that seals in flavor and seals out contamination.

Figure 6 shows diagrammatically the various phases of the production line for smoked hams. At the extreme left of the line whole smoked hams are placed on skids near the position where the cutter stands. The cutter merely has

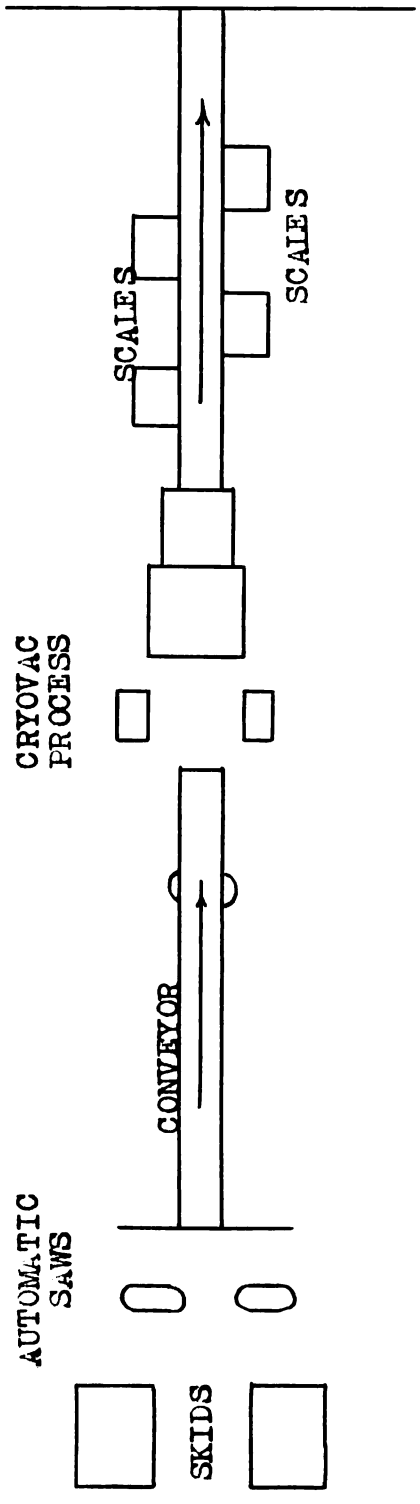

Fig. 6. SMOKED HAM LINE

to reach over to procure a ham and place it on the automatic saw machine where he trims it slightly, saws the shank bone and then cuts the ham into butt and shank portions. After making sure that the butt half is properly trimmed for fat it is placed on the conveyor and moved to the next operation. The shank half is then cut in order to remove the center slices. The number of center slices taken off any given ham will, of course, depend on the size of the ham and the degree of fatness. This must be left to the discretion of the cutter. He is fully cognizant of the importance of getting the full number of slices off each and every ham while still leaving ample meat on the shank half.

After the shank half has been finished it also is placed on the conveyor belt and is carried to the next position. Here the ham is placed on a specially built chute and a Cry-O-Rap bag is slipped over the ham by an operator. From there it is placed on the vacuumizing machine and air is withdrawn through a nozzle and the end of the bag is twisted and placed in a machine which makes a tight wire-twist seal. These two functions can be performed by one or two operators, depending on the speed at which the line is being run.

Once the ham has been packaged, vacuumized and sealed it is then immersed in hot (195-205 degrees) water. This is done in a machine which automatically kicks the ham up and out upon a receiving table after it has been immersed in the hot

water for five to seven seconds. The bag has by then shrunk to a tight-clinging second skin and looks like part of the ham.

The receiving table where the hams are deposited by the machine is heavily covered with thick, absorbent sponge. This helps to remove the greater part of water that clings to the outer wrap. In addition, one or two workers, depending on the work flow, are stationed at this table to complete the task of thoroughly drying the outer surface of the packaged ham.

Once the ham is dry it is again placed on the conveyor and moved to the scales where four workers are employed in weighing, pricing and marking. The marking is done with special ink pens, that leave a very clear and non-smearable mark. It should also be noted that the price label is part of the Cry-O-Rap bag and no additional operation is needed to place a label on the package.

After the pricing operation the ham is again placed on the conveyor and it is carried to the holding area and boxed and madeready for shipment.

As the hams are packed in boxes the retail value of each ham is calculated and the total value of the hams in a carton is written on a label and affixed to the carton. While this may seem like a complex phase of the operation, it is actually quite simple. All that is needed is a very small adding mach-

ine and a worker who is adept at reading the retail price, placing the figure in the adding machine and then totaling the sum for each box. When the work flow is sufficient two people work at this task. One reads the prices and the other loads the hams in the boxes and pastes the properly marked labels on them. Presently, four ham pieces are being packed in each box.

While this explanation has dealt only with the packaging of hams it should be pointed out that the line and the Cry-O-Vac process is capable of handling many items other than hams, if so desired. Smoked shoulders, poultry and corned beef are also adaptable to the process. Currently, only smoked hams and shoulders are being packaged by this company however.

During the Easter period when a maximum of hams and shoulders were needed, an hourly production of two thousand pounds was achieved. If it is assumed that each portion of ham weighed five pounds on the average, this would give an actual yield of four hundred pieces per hour. The center slices which are removed by the cutters in the first stage of the operation are hand wrapped on an entirely different line and this weight cannot be counted in the total. It must be taken into consideration, nevertheless, that the cutter has performed this function of removing the center slices from the ham and any cost study would have to allo-

cate this function to the total production of the ham packaging line.

The cost of the individual Cry-O-Rap bag is considerable, being around seven cents per bag. When this cost is compared to the cost of a sheet of pliofilm, the usual wrapping material for hams, the difference is quite appreciable and would lead one to believe that the cost of the wrap is prohibitive to its use. This, however, is not the case. Half-hams packaged by the Cryovac method show now appreciable weight loss over and extended period. In addition, because a vacuum can be held, mold growth is prevented. In tests conducted on half-hams, which were packaged in two other types of film now in use, mold growth showed on the face of the ham after seven days storage at forty degrees and after two weeks the meat was unsalable.[2]

The table in Figure 7 shows the percentage losses with these two forementioned types of film on packaged half-hams.

At current prices, a 2.7 percent loss on a five pound half-ham would result in at least a 6½ cent loss merely because the wrapping was insufficient. It must also be taken into consideration that after a period of two weeks the ham would have to be refaced at least twice and this would merely mean more weight loss.

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2. Henry Shaeffer. "Centralized Meat Prepackaging." Chain Store Age. (October 1950), Reprinted Article.

DAYS STORAGE AT 40 DEGREES FAHRENHEIT	FILM A PERCENT	FILM B PERCENT
2	1.1	.75
4	1.9	1.3
6	2.1	1.7
8	3.1	2.0
10	3.7	2.3
12	4.3	2.6
14	4.8	2.7

Figure 7. Percentage Loss on Half-Hams[3]

3. Henry Schaeffer. "Centralized Meat Prepackaging." Chain Store Age. (October 1950), Reprinted Article.

HAND WRAP LINE

The third production line called the hand-wrap line handles chunk portions of liver sausage, bologna, salami, ring bologna, Polish sausage and other items which are not sliced, but are cut in chunks and packaged as such. Cardboard trays are used for such items as ring bologna and Polish sausage and the other chunk items are merely wrapped in cellophane with no cardboard backing. This provides maximum visibility of the product.

Figure 8 points out the location of tables used for wrapping and cutting and the placement of scales and personnel.

A cutter at the extreme left cuts each portion of liverwurst or salami or whatever he may be working on into the desired number of pieces. These are placed on trays and removed to the wrapping stations. Women wrappers then cellophane wrap these portions by hand. Both hand sealing irons and hot plates, which are seated in the work bench, are used for this wrapping.

After each piece is wrapped it is placed on a tray on the non-automatic conveyor which is at shoulder level. By keeping the conveyor at this height the wrapper has freedom of movement and works unbothered by the clutter from packages which she has already wrapped. Once a tray has been filled it can be pushed down the conveyor to the scales, where the

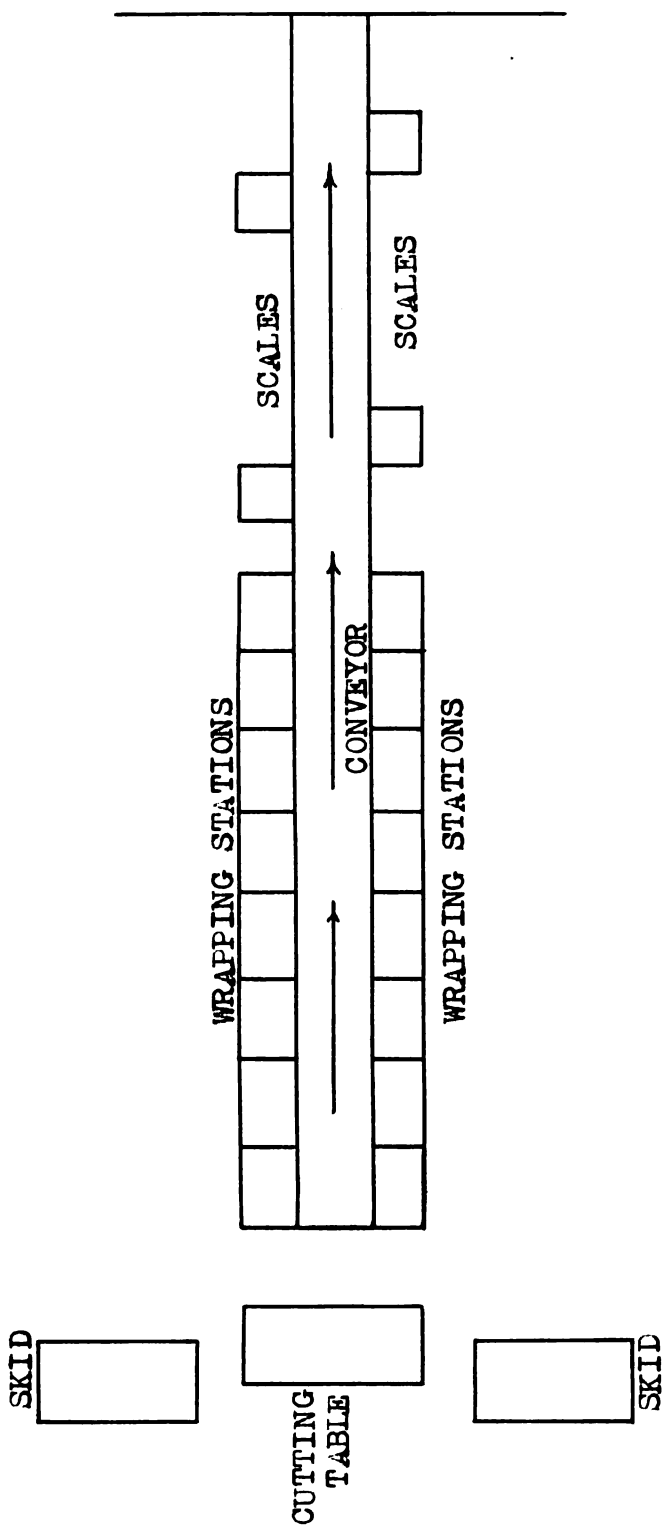

Fig. 8 HAND WRAP LINE

packages are weighed, priced and marked. Since each is a slightly different weight, great care is taken to price correctly and read the scales closely. This task is done by four scalers.

When each tray of meat has been priced it is then placed on the conveyor and sent to the holding room, where it is boxed and placed on skids ready for shipment. The total retail price of each box of meat is calculated and placed on the outer side of the box. This packaging line is very versatile and is able to include all types of portions of prepared meat that do not lend themselves readily to machine packaging. This includes smoked ham slices. Any number of wrappers, up to eleven, can be employed at a given time depending on the volume to be packaged.

The productivity of the cutter who slices the loaves is especially high. Concentrating on this one task, he accomplishes it with a minimum of motion, time and energy. His efficiency and speed assures the wrappers an uninterrupted flow of merchandise and stoppages due to lack of merchandise are non-existent.

The practice of sealing the label on the outside of the package also lends itself very readily to mass production techniques. It also assures a neater package, because moisture or smear from the meat is eliminated.

Luncheon Meat Line

The luncheon meat line employing twelve women workers is capable of supplying 85 stores in the district with all requirements for sliced luncheon meats. The placement of automatic slicers, scales, wrapping machines, and operators is shown in Figure 9.

Luncheon meat loaves are assembled on skids provided for this purpose and placed beside the slicing machines. It requires two women to supply the slicers and to assure a steady, continous operation. They merely place the two loaves in each machine, when the previously inserted two loaves have been run through. The machine slices and stacks the two loaves in two piles on the conveyor. The conveyor is rigged to move in conjunction with the slicing machine. That is, when the allotted number of slices have been turned out, the machine stops for a split second and the conveyor moves forward far enough for the next stack of slices to start accumulating.

The stacks of luncheon meat are in one-half pound quantities. This is regulated by the machine with the use of a counter and an adjustment that determines the thickness of the slices of luncheon meat.

The scaler at the other end of the conveyor merely takes the stacks from the conveyor and places them on the scale to

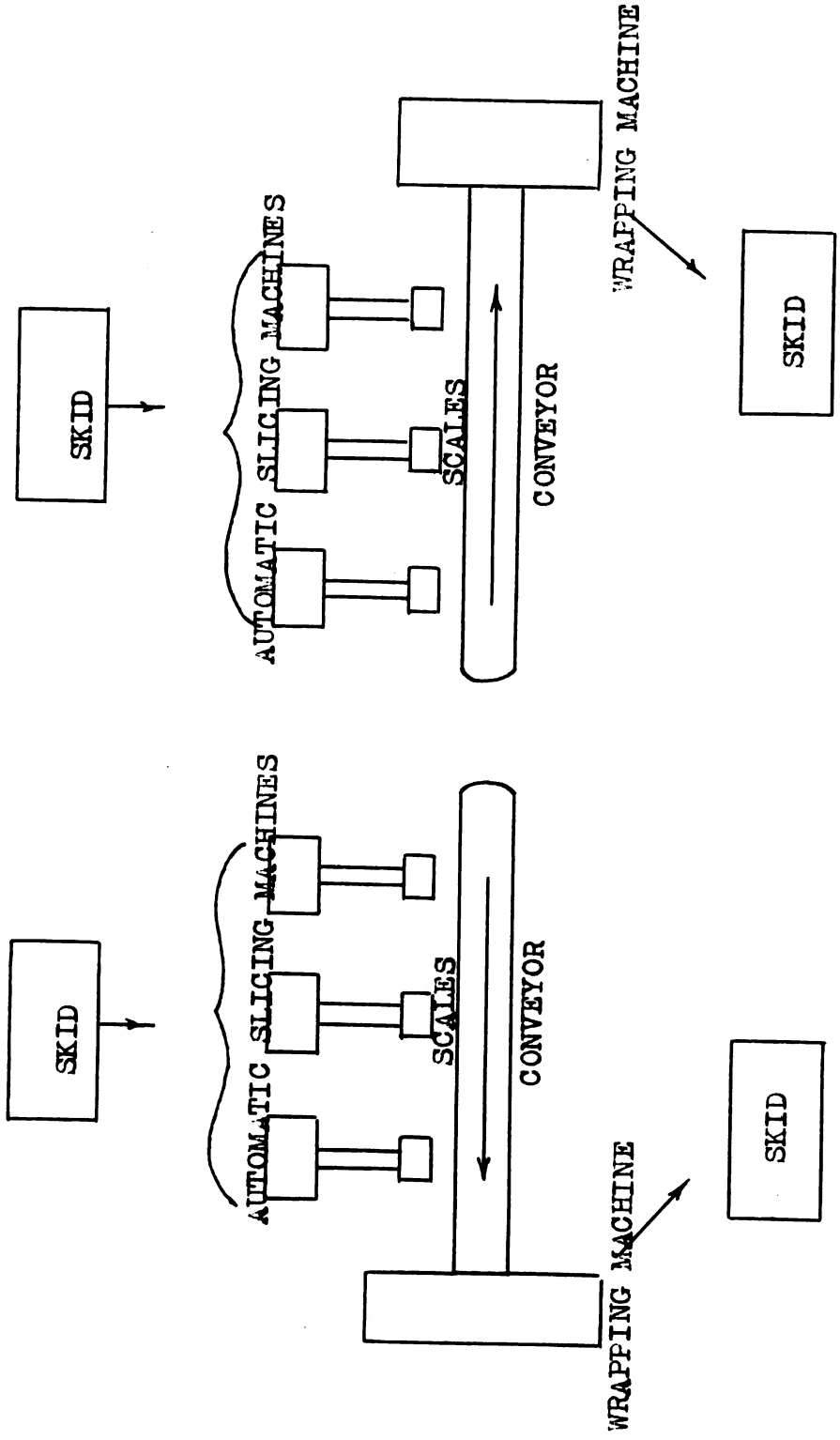

Fig. 9 SLICED LUNCHEON MEAT LINE

determine if they meet the one-half pound weight requirement. If not, she adds or subtracts the right quantity. Detecto scales are used to reduce eye strain and provide maximum speed in weighing.[4] When removing the meat from the scale the scaler slides a piece of cardboard backing under the meat on the continuous conveyor which conveys it to the wrapping machine where it is wrapped, scaled, labeled and priced marked all in one operation. The meat is then boxed and brought to the holding room where it is stacked in a designated spot, ready for shipment.

This production line produces thirty-eight thousand pounds of luncheon meat per week. Taking into consideration that the work week consists of five days, this means daily production is seven thousand six hundred pounds. When this latter figure is divided by the number of workers employed, namely ten, the result is six hundred twenty-five pounds of sliced meat per day per employee. Taking into consideration that the average luncheon meat loaf used weighs ten pounds, and this is a very generous estimate, then each worker is processing, on the average, 62½ loaves per day.

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4. Detecto scales have no weight calibrations. They only indicate whether the portion on the scale is under or over weight.

Even the most partial observer must admit that this volume of work is substantial. In fact, this productivity could not be achieved at the store level, unless hugh quantities of automatic equipment were used, and then there is serious question if it could be effected.

Male Personnel Requirements

In order to assure the proper supervision, flow of materials and meat and maintenance of machinery, nine male employees are required. One, a mechanic, tends to the functioning and orderly operating of all machines. He oils the machinery, sharpens blades and takes care of any breakdowns that occur.

One man works at the bacon packaging line, assisting in moving skids and replensishing supplies to the workers, regulating the flow of bacon to the scalers, and generally seeing that the operation functions smoothly. Another man is needed to supervise the three remaining lines. He is constantly aiding, advising and performing the other duties of a supervisor. Two other men are needed to move meat to and from the lines before and after it has been packaged. As previously mentioned, two men are constantly cutting meat. One is stationed at the smoked ham line and other at the hand-wrap line. Two general supervisors are also employed. In addition to handling personnel problems, they are constantly

studying and improvising new and better ways of doing things. They are also responsible for production and an over-all efficient operation. Needless to say, these two men are the hub of the entire system.

Temperature Control

The entire packaging room is kept at fifty degrees at all times. This keeps down the bacteria count, reduces spoilage and preserves the freshness of the meat while it is being packaged. It also prevents the meat from sudden changes in temperature as it is routed through the various stages of packaging.

The holding or storing room is kept at 35 degrees. This temperature preserves the freshness of the packages, but is not low enough to freeze the meat.

Reaction of the employees to this rather low temperature is not what one would expect it to be. Rather than being displeased with the temperature, they are, on the contrary, very receptive to it. The nature of the work is such that they are constantly moving to some extent and this provides enough movement to keep them warm and contented at their work. Inquiries and misgivings about the low room temperature were greeted with surprise by all persons questioned. It appears to be simply a matter of becoming acclimated to the

temperature and takes only one or two weeks time.

Transportation

Transfer of goods from the storage room in the warehouse to the various retail outlets is made with refrigerated trucks. The orders are pulled and made ready at night and then go out on the trucks in the morning along with the other larger shipments of beef, veal and pork.

Corrugated shipping containers are used and the refrigeration from the product, instead of escaping, remains in the box and helps retain the low temperature, helping to refrigerate itself. Although in this operation refrigerated trucks are used, they are not an absolute necessity. As previously explained in the section on temperature control, if the product comes from a 35 degree cooler is cut and packaged in 50 degree room and returned to a 35 degree storing room, it will hold its refrigeration for hours. These refrigerated trucks could be dispensed with if finally determined to be too expensive. Use of conventional non-refrigerated trucks is being made by some plants at this very moment for deliveries up to a distance of one hundred miles.

Total Personnel Requirements

The number of workers needed to man equipment, scales and wrapping tables to insure optimum production is sixty.

This number includes supervisory personnel. Exclusive of the nine men employed, who were mentioned previously, the remaining work force is made up entirely of women. The very nature of the work and the extreme digital dexterity required for wrapping and scaling appears to be the reason for this situation. Women have proven to be most suitable for this type of work.

CHAPTER V

SMALL CENTRALIZED OPERATIONS

The discussion, thus far, has covered the prepackaging of meat at the retail level and the prepackaging of luncheon meats and sausage products at a central location. The following discussion concerns two chain companies that have successfully prepackaged their entire meat requirements with a centrally located system.

The first chain store company to be considered is operated by Mr. Richard Oppen of Minot, North Dakota. The company is small and only handles a total weekly tonnage of 11,830 pounds of meat. Average weekly meat sales amount to $6,500.[1]

Two of the stores in this chain of five, are located in the city of Minot, North Dakota and the other three are in surrounding rural areas. The most distant one is seventy miles from Minot. All prepackaging takes place in the central warehouse located in Minot proper. The two stores in Minot receive meat shipments daily by non-refrigerated truck. Daily shipments are also made by railroad through American Railway Express in refrigerated cars to the rural stores. Un-

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1. John D. Lucas. "We Package Meat for Self-Service for Five Stores in Our Warehouse." The Progressive Grocer (March 1948), p. 82.

sold merchandise that needs conditioning is returned to the warehouse in the same manner. To date, these returns have averaged 2 per cent of weekly sales.

Total weekly meat sales of $6500 for the five units are broken down as follows: Store Number One, $2073; Store Number Two, $1,800; Store Number Three, $1,000; Store Number Four $827 and Store Number Five, $800. In all, these stores meats account for 20 percent to 25 percent of total store sales. Meats were not carried in Store Numbers Four and Five prior to the self-service meat venture.

It requires only two men and eight women, who work a total of 416 hours weekly to prepare all meat for the five stores.

It is only a part-time job for a store employee to stock and keep displays neat at the retail level. Weekly sales per part time employee are calculated as $650. While this is perhaps excelled by many merchants with large volume meat departments under one roof, the saving in labor in this particular case is substantial. With a small to medium amount of meat sales in the five stores, it would require at least ten high-salaried meat men. This would bring the labor expense alone up to from 10 to 15 percent of meat sales in each meat department. In comparison labor expense is now only 6 percent of total meat sales because of the centralized processing and packaging setup.

A tonnage record of all merchandise shipped to the five stores is kept in order to measure employee output. The re-

cord keeping is facilitated by charging the tonnage out to the stores at retail prices. Tonnage figures remain more constant than retail sales figures which can be easily distorted because of retail price fluctuations. Therefore tonnage is a more exact criterion of the two to use when measuring and comparing employee output of service and self service meat departments of today.[2]

Figure 10 gives a breakdown of the type of meat sold, pounds per week sold and percent of sales of each classification.

Type of Meat	Pounds Per Week	Percent of Sales
Beef	4650	41
Pork, fresh	1301	11
Veal	592	5
Lamb	237	2
Poultry	828	7
Variety Meats	355	3
Smoked and Cured Meats	2366	20
Manufactured Meats	1301	11
TOTAL	11,830	100

Figure 10. Meat Sales in Pounds

2. Lucas, ibid., p. 196.

A percentage change in the types of meat sold as shown in Figure 10 will affect the output favorably or unfavorably. For example, it requires more hours to prepare and package beef and smoked meats. Therefore, the management is satisfied that the employee output per hour of 28½ pounds is good utilization of labor.

Production techniques do not differ substantially from those practiced by any large volume retail store using self-service. When these techniques are applied to this particular company, however, they assume special significance. Speed and organization are stressed. Whole carcasses are brought into the warehouse and kept in the walk-in cooler until ready for processing. All preparations are made in a 25 by 20 foot room. Meat blocks and electric saw are so arranged that all personnel can work simultaneously on their specialties.

Organization of duties eliminates waste and reduces shrinkage. Meat shrinkage averages from 1 to 2 percent of sales. Fresh meats are processed and packaged after cooling. This reduces the natural shrinkage from evaporation, drippings and moisture.

The inevitable question about how less expensive and undesirable forequarter cuts are to be merchandised has been answered and the problem solved by this chain. The harder working clientele of the rural stores prefer thriftier cuts

of meat, such as forequarter roasts, boiling meat and variety meats. The more-in-demand cuts, such as steaks and ribs, sell best in the two Minot city stores. This equitable distribution has meant less losses from items not in demand which frequently had to be sold at reduced prices. Thus, it is seen that merchandising of the supposedly less desirable forequarter cuts is not the problem so many operators presuppose. This holds true providing there is a divergance in the type of store within the chain and a difference in the location of the stores as far as income group areas are concerned.

The usual success story accompanying the installation of self-service is apparent here. Customers expressed their approval to the extent that in three self-service meat departments sales increased immediately. Using the sales of the preceding month as a basis, sales increased 53 percent. The increase continued, in fact climbed slowly but steadily for the rest of the year, reaching 60 percent as an average for the year. This increase in sales is sound testimonial to the fact that customers were pleased with this new operation.

There are two inferences here that should be taken into account. Firstly, the success of this venture has added another successful meat retailing business to our total economy. Although quite small when compared with the gigantic sales figures issued forth by regional and national chains,

they are nevertheless significant when regarded in terms of the small community in which the chain does business. While it is possible that this business might be conducted on a service, over-the-counter basis, the results show that it would not be as efficient or profitable. For one thing, labor costs were prohibitive under the old type service operation. Centralization of the operation has indeed, enhanced the profitability and has made the full utilization of floor space, labor and capitol more easily attainable.

Secondly, people in the rural areas surrounding Minot and those living in Minot are being offered the opportunity of purchasing meat in a manner, previously impossible for them. Their apparent approval is expressed in the increase in meat sales. There has been a service rendered. The advantages are chiefly more easily obtainable, wider variety and fresher meat for the consumer and overall more profitable business for the entrepreneur. A sub-marginal meat operation has been converted to an efficient and profitable enterprise.

The Victory Chain

To further broaden our sample of centralized meat prepackaging operations, the Victory Chain operating in and around Norwich, New York offers some fine examples of how problems of ordering production and shipping can be handled

in a centralized meat prepackaging operation.[3] Mr. Charles A. Smith, Jr., Vice-President in charge of the Central Meat Prepackaging Department states:

> "Our operation is similar to any retail meat prepackaging operation. Really, ordering, production and shipping have been our outstanding problems. Getting the orders from the stores in on time so we can establish a production line schedule which will enable us to cut early enough in the day so our orders can be shipped back out to the stores without a large amount of overtime. Remember in the case of prepackaged meats each item on the order is a small retail package, and when each individual package must be billed it is a time consuming operation. For example, three men working under pressure took eighty minutes to put up a $350 order for a single store."[4]

Thus, we see that Mr. Smith's experiences have shown him that the real trials of such an operation as his organization conducts lie not in the packaging of the merchandise but rather in the swift and efficient delivery of it to the outlets.

A brief review of the reason why the Victory Chain installed central prepackaging should help to reveal how and why it has proven successful.

Many of the Victory stores are in the "growing-up" stage. They are for the most part, small neighborhood markets which offer the customer some services. To hold their trade it was essential that some meat be stocked.

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3. Charles A. Smith, Jr. "How We Package Meats for Our Victory Stores in Our Central Prepackaging Department." The Self-Service Grocer."(October 1950), p. 6.

4. Smith, ibid., p. 7.

Before the installation of the prepackaging operation meat was being shipped to these stores unwrapped and layered between sheets of ordinary meat paper. Some of the markets were successful and had developed enough meat volume with this system to warrant a full-time butcher and the operation of a conventional meat market. Others handled varying quantities of meat, but because of lack of volume or the inability to find a sufficiently capable man, they were not doing enough business to make them profitable. In any event, the handling of meat in this unwrapped fashion was a stop-gap medium at best. Thus, it was decided to experiment with a centralized meat prepackaging department.

Seven representative stores were chosen. Some were located in a city area, others in small communities and still others in extreme rural areas. The volume in each of these stores was carefully analized and two community surveys of customers were conducted to ascertain the acceptability of prepackaged meats. The results showed that any change from methods used in the past would be a most welcome improvement.

It also was planned to open this department on the basis of a volume of at least $5000 per week. The pioneer stores could not produce this volume so it was decided that cheese and frankfurters could also be packaged for other stores in the chain in orderto supplement the volume of the pioneer stores.

The actual wrapping methods used by the Victory Chain are very similar to those explained elsewhere in this paper. The layout is equipped with the usual butcher's aids including a power saw and gravity conveyor. Packaging is done by women employees, who use hand sealing irons. An automatic label printing machine is also used. This quickly prints labels to show the name of an item and the price per pound. All packaging tables are equipped with adjustable legs so they can be arranged at the proper height for the women who do the prepackaging.

After the merchandise leaves the wrappers a conveyor carries it to the cooler door where it is placed in cardboard boxes. These measure 18 by 24 by 4½ inches deep. The meats are arranged in three layers with a filler between each layer. After boxing the shipping carton is placed on designated shelves in the cooler. Two coolers are available, one for cheese and cold cuts which measures 6 by 8 feet and is equipped with a normal blower coil and kept at a temperature of 40 degrees. The other cooler is for fresh meats. It has a thermabank coil and is kept at 28 degrees.

The shipping system is as follows: For the purposes of standardization, specific locations are used for various cuts of meats. There is a two-way communication system between a duplicate type adding machine immediately

outside the cooler. The men in the cooler fill the order as it is read to them from outside by the adding-machine operator. For example, if she calls for twenty chuck roasts, the men inside choose at random twenty chuck roasts. As they place them in the container for shipment they read each individual price back to the adding machine operator and a total retail sum for the order is thus received.

When the particular store order is completed, the order is totaled and the duplicate tape removed from the machine. One copy of the total order then goes to the billing department and the duplicate is stapled to the store order and goes out to the store with the merchandise when it is delivered. To date, this is the fastest method that Victory has been able to devise for fresh meats.

Cold cuts and cheese are handled in a different way. Standard size packages of cold cuts and cheese are packed and can be billed according to a specific number of units to a carton. For example, if a store orders thirty pounds of sliced bologna, then they are shipped sixty units of one-half pound packages of bologna and billed for the same. Because of the standardization, the billing difficulties experienced with fresh meats are avoided.

Deliveries to the stores are made three times a week in refrigerated trucks. In addition to the refrigeration supplied by the trucks, low temperature control is assured

in the following manner:

When the order has been put up in a series of cardboard boxes, each measuring 18 by 24 by 4 1/2 inches deep, four of these boxes are placed in a packing case, the inside dimensions of which are 19 3/4 by 29 1/2 by 20 1/2 inches. This case is insulated on all four sides with one-half inch of celatex.

This allows an area at the end of the cardboard boxes inside the packing case which is 4 1/2 inches wide. Dry ice in a canvas bag is placed in this area to provide additional refrigeration. The only difficulty of this method noticed was a slight freezing condition on a very long delivery. This condition was corrected by covering the open-handle holes in the cardboard boxes next to the dry ice.

As previously mentioned several stores other than the original seven test stores had been allowed to order prepackaged cold cuts, cheese, frankfurters and cuts of some of the fresh meats such as cube steaks. This system did not work very smoothly, however. An analysis of the delivery schedules revealed that 81 deliveries contributed to 40 percent of this meat business and thirty deliveries accounted for 60 percent of the business. This arrangement resulted in some very disappointing cost figures.

The cost figures were as follows prior to any changes: Labor cost in relation to total sales was 8.9 percent. Cost

of supplies to total sales averaged 3.9 percent. Percent of loss which included markdowns, spoilage et cetera amounted to 3.2 percent. Total cost was determined to be 16.97 percent of total sales and labor cost per pound of meat handled was 4.1 cents. The operation at this point was not profitable.

Shipping schedules were revised so that prepackaged meat was shipped to only 16 stores. These stores received complete lines of merchandise. The orders were telephoned in early Monday morning and on Tuesday and Thursday afternoons before 5 o'clock. Deliveries were made two or three times a week depending on the volume of a particular store or the distance it was located from the warehouse.

Frankfurters, cold cuts and cheese are still shipped to a large number of small stores that offer only these articles on a self-service basis. These orders are billed on Tuesdays, Thursdays and Saturdays and continue to be a cumbersome procedure despite the before-mentioned change in billing. The individual orders are so small and the time required to assemble them is so great that the over-all operation is not as profitable as might be desired. The continued delivery of these products to the small stores is based on the premise that they do increase total sales in the stores. That is, they are being offered as a special feature in an effort to increase the aggregate grocery and produce sales in the stores that are being serviced. The adoption of a labor saving packaging machine is planned and should reduce

labor costs to the point where the operation will show a respectable profit.

Mr. Smith believes that his company has progressed with the centralized prepackaging operation to the point where it can be considered successful. Merchandise is being shipped seventy-five to one hundred miles on refrigerated trucks without excessive loss from spoilage. The records from one store show that $3,376.69 worth of meat merchandise received resulted in only a $30 loss from spoilage.

The overall figure on spoilage, rewraps and mark-downs has been 3.2 percent. This high percentage of loss can be contributed to two factors. Firstly, there was need for a great deal of experimentation before the proper temperature for display cases, and the proper amount of merchandise for display in the cases could be determined. Secondly, store managers were given too much latitude in their ordering of fresh meat. A correction of this laxity resulted in a lower spoilage figure.

Mr. Smith also warns about the continual battle that must be waged to keep stocks in balance. Certain cuts of meat, notably those from the hindquarter, move more rapidly than others. In a central prepackaging operation the situation is magnified because each store involved causes the problem to be multiplied. The backlog of poor cuts is larger than normal.

This problem has been solved in two ways. All excess trimmings from the prepackaging department are moved into the cooler where they are ground up as hamburger. Between four thousand and five thousand pounds of hamburger are made each week, and the sale of this hamburger has aided in the task of keeping stocks in balance. Secondly, a supervisor is constantly visiting the retail stores, and he immediately returns any convertible merchandise to the hamburger department. This measure also helps to alleviate the problem.

Any price changes that must be made on merchandise already in the stores is done with special stickers for this purpose. The new price is placed on this small sticker, which can be sealed on the outside of the package over the old price lable. No rewrapping is needed in order to make price changes.

Signs pasted in the store inform the customers that they can have any special cut of meat desired on 24 hours notice. Special orders, however, have been limited in number.

While there are still many problems to be overcome the Victory Chain apparently has made centralized prepackaging work successfully. As a direct result of changes made in packaging, ordering, shipping and other functions a more favorable cost picture is discernable. Labor cost in relation to total sales was reduced from 8.9 percent to 6.6 percent; cost of supplies to total sales was lowered

from 3.9 percent to 1.4 percent; percentage of loss from markdowns, spoilage et cetera dropped from 3.2 percent to 2.2 percent and labor cost was reduced from 4.1 cents to 3.3 cents. Gross profit on merchandise shipped was calculated at 22.5 percent after the change over.

Exertion of close controls over methods used at the point of shipment, and in the stores in regard to returned merchandise appear to have solved the Victory Chain's centralized prepackaged meat operation problems.

CHAPTER VI

THE ROLE OF THE PACKER

The number of meat packers engaged in processing meat for distribution to retailers is so large and the various operations they perform are so complex that an exact assertion about what the packers are accomplishing in the prepackaged field is a decided impossibility, in a study of this type. Therefore, it seems advisable to consider the experiences or endeavors of a selected number of packers, who have actively participated in prepackaging. In this way the writer hopes to focus attention on specific operations that have proved to be successful. This method will also reveal some of the techniques and methods used by these packers and processors. Four companies have been chosen as a sample. Armour and Company, enjoying national distribution of its products will be considered first.

The following quotation from a speech to a retail food dealers convention by Mr. W. S. Shafer, Vice-President and Sales Manager of Armour and Company sums up the general attitude of the Armour Company toward self-service prepackaging:

> "We are open-minded, and we intend to continue to explore the possibilities of all our products which may conceivably lend themselves to self-service.

> There is always the possibility that some new technical development or discovery will make it possible at some time in the future for packers like ourselves to develop new items as we go along. We in Armour and Company, are fully cognizant of the trend toward self-service meats, and we are making every effort to keep pace with the parade."[1]

Armour and Company has already marketed a substantial number of packaged products that have gained widespread recognition. For example, the company distributes in packaged form in either one pound or one-half pound units the following articles: frankfurters, smoked pork sausage lings, fresh pork sausage links and fresh pork sausage rolls.

In addition, three types of packaged bacon in one-half pound and one pound units are offered. The first is a vacuum packed package. This package holds the original flavor and appearance of the bacon from the time it is packed to the time it reaches the ultimate consumer. Discoloration is negligible. The second type is ideally suited for self-service. It is packaged in cellophane with a cardboard backing and it has a maximum of transparency. Finally, they offer a standard cellophane package which many retailers have been selling satisfactorily through self-service cases for many years.

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1. W. S. Shafer, "Prepackaged Self-Service Meats," An unpublished speech delivered to a meeting of retail food dealers. May, 1948, p. 36.

Also packaged in visible wrapping or casing are: pork butts, beef tongue, smoked pork shoulder picnics and pork jowl bacon.

Sausage and tube-shaped items also have been packaged in consumer size units for self-service. They include: ring bologna, cervelat, chili con carne, sliced dried beef, cooked salami, thuringer, bologna and braunschweiger.

Recently, Armour and Company embarked on a sliced luncheon meat project. While this operation is still in the preliminary stages, and many problems have been encountered regarding the type of package to be used and maintenance of the quality of the meat, the endeavor is proving to be successful.

The foregoing, inumerated items are some of the products that Armour and Company has been able to make available in packaged form to the retailer. As more is made known about other products that may conceivably lend themselves to self-service, they will undoubtedly be incorporated into Armour's line of self-service merchandise.

So far as fresh red meats such as steaks, chops and roasts are concerned, it does not appear as though these products will be prepackaged for self-service. Mr. Shafer states the attitude of Armour and Company about fresh red meats in the following quotation:

> "This does not mean that we will never be able to prepackage these items. But, from what we know

at the present time it is doubtful that we can ever think seriously of prepackaging these items for self-service for a long time to come."2

OSCAR MAYER AND COMPANY

The second packing company to be considered is Oscar Mayer and Company of Madison, Wisconsin, The Oscar Mayer Company is somewhat smaller than Armour and Company, but no less progressive, particularly in developing packaged sausage products for self-service.

They have approached the problem by attempting to devise packages that eliminate shrinkage and discoloration, that give reasonably long shelf-life and that can be delivered ready labeled with fixed weights.

By way of explanation it should be said that Oscar Mayer and Company has specialized in sausage products and owns and operates slaughtering houses primarily to control raw materials for their sausage operations. To them fresh meat is a by-product and there is serious doubt if they will be concerned with self-service packaging of fresh meats for several years, if at all.

This company has two types of self-service production operations at the present time. In their Chicago plant they are slicing and packaging thirty items in pliofilm and de-

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2. Shafer, ibid., p. 36.

livering these products in the metropolitan area of Chicago only. The products range all the way from one pound and one-half pound weiners and one pound and one-half pound sliced bacon to six ounce boiled ham, six ounce Canadian bacon and seven ounce sliced bologna. This operation is very comparable to any good chain store central kitchen operation except that the product is delivered and sold under the Oscar Mayer label rather than the chain store's label.[3]

In Madison, Wisconsin, they have concentrated on the development of vacuum packages both for sliced loaf goods and for products sold in tubes such as four, eight and 13 ounce sticks of liver sausage; sandwich spread, which is fundamentally a potted meat in a tube instead of a can; seven, nine and 13 ounce vacuum sliced packs of bologna and various sizes of other products such as cotto salami and olive loaf.

Properly refrigerated transportation facilities allow for almost complete nationwide distribution on a sizable number of these products.

Mr. Bruce Ashby, Manager of the Self-Service and Shelf Canned Meat Divisions of Oscar Mayer and Company, has stated in a recent letter to this writer:

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3. Central kitchen in this instance refers to a centralized operation.

> "Generally speaking, both the trade and we believe that sliced packages and specialty products such as sandwich spreads should be put out in odd ounce packages rather than in one-quarter pound or one-half pound or similar units that tend to place a product "on center." Our experience indicates that faster moving products such as bologna, cotto salami and olive loaf may be packaged in larger units than the more costly and/or slower moving products such as Canadian bacon, boiled ham, luxury loaf and others. If we are right, then substantial economies can be made in packaging these faster moving items resulting in lower prices, higher margins or both."

This interesting commentary by a very well qualified specialist helps illustrate the extensive planning and preparation that Oscar Mayer has resorted to in an effort to keep abreast of self-service merchandising. While these ideas reveal nothing that progressive retailers have not known for some time, they do set forth the cooperative attitude between the packer and the retailer which can and many times does exist.

Mr. Ashby also believes that packers' prepackaged sausage items will gain general distribution and acceptance much faster than packers' fresh meat items. In addition to the spoilage factor he points out that the very nature of fresh meats creates more varied consumer preferences. Also there is more reason for catch weights on fresh meat items.[4]

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4. Catch weights are determined by the size of the unit weighed. That is, no attempt is made to predetermine any given weight. This is particularly true of fresh meat products such as beef, the cuts of which cannot be standardized.

These two factors, he believes, can best be handled by the retailer at the point of sale. Catch-weights and individual customer preferences present no real problem to the retailer. The packer would find these almost insurmountable obstacles.

THE GLENDALE PROVISION COMPANY

Some small local and regional packing companies have been quick to seize upon the opportunities offered by self-service. The Glendale Provision Company of Detroit, Michigan, is among this group.[5]

Officials of the Glendale Company firmly ignored the reluctance on the part of some packers to invest in the necessary equipment and machinery necessary to bring a self-service unit package to the consuming public. The officials also have ignored the tendency on the part of some packers to watch and wait until some of the technical difficulties have been worked out of self-service by retail chains and large supermarkets.[6]

The Glendale Company management feels certain that the present trend in the direction of self-service meat merchan-

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5. Anon., "Packaging Streamlined," Meat Magazine, June, 1948, p. 20.

6. ibid., p. 20

dising is here to stay. They also feel certain that the increasing popularity of consumer unit packages is based upon a real need among consumers for branded, packaged products, which are convenient to buy, handle and use, and which are suited by quantity and quality to individual family requirements.

The following quotation helps to emphasize another significant reason why the Glendale management decided to produce consumer size units for self-service:

> "... is also convinced that this type of prepackaging is properly the function of the packers or processor rather than the retailer, and is most advantageous to all concerned when engaged in at the highest distributive level. The processor has the necessary operating know-how, space and facilities and he is in a better position to cope with the many technical problems and details envolved. Then, too, in a manufacturing plant volume production methods can be employed to turn out a better quality product at a lower cost to the ultimate consumer."[7]

The first product to be packaged by the Glendale Company was frankfurters. Requests from customers were so great, however, that it was decided to include the prepackaging of their entire line of products. This included 19 of the full line of 23 sausage and processed meat items produced at the Glendale plant in Detroit.

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7. ibid., p. 21.

Many problems were anticipated in both packaging and handling of the finished product. However, experience gained from packaging and handling the frankfurter line greatly aided their endeavors. The original plant lay-out called for some manual handling of the products. This was necessary in order to allow a certain amount of flexibility in case of subsequent changes in machinery or equipment. It was assumed that future changes would be made in order to increase efficiency.

Packaging volume is closely controlled and averages 10 percent of the weekly 100,000 pound output of the Glendale plant.

Equipment includes two continuous, automatically-fed U. S. slicing machines; an Cliver automatic packaging machine, check scales; stacking trays and work tables. The packaging room is under refrigeration and is held at a 50 to 55 degree temperature. This temperature is maintained by the use of air conditioning unit.

The packaging materials for each day's operation are brought in from the storage department and stacked near the scaling table withing easy reach of the check-weighers and packers. These materials consist of fairly heavy board backing for the sliced sausage products, treated cellophane overwrapping and heat seal labels. Three sizes of cardboard

backing are used to conform to the dimensions of the sliced products. This also provides standardization in the size of the packages.

One worker operates both of the slicers, which are each capable of handling two luncheon meat loaves or three sausage loaves simultaneously, at a slicing rate of from 48 to 50 per minute. The machines accomodate products up to 24 inches in length without resetting of the feed mechanism. The slices of meat are automatically collected and stacked on a synchronized receiving tray on the slicer, which moves slowly downward until filled.

When the tray is filled the slices are removed by the operator and placed on an adjoining table where they are accessible to four check-weighers. These operators remove the slices of meat from the stacks as they are needed and weigh them in one-half pound units. Standard under-over scales, counterbalanced for tare of the cardboard backing are used.

The weighed, one-half pound units are then placed on trays. When enough have accumulated on several trays, they are moved near the conveyor feed of the wrapping machine. Part of the weighing crew also moves to the wrapping machine to assist in loading and unloading activities.

The machine automatically turns up the protective edges of the cardboard backing, puts on the cellophane overwrap and

attaches a label bearing the name of the product, net weight, price per pound and total price. The machine wraps, seals and labels approximately 15 pounds or thirty one-half pound packages per minute. The indelible stamping attachment can be adjusted to imprint various product names, poundage and price.

Once wrapped, the individual units are bulk-packed in 12 pound cartons for delivery to the loading dock and shipment to the retailer. Deliveries are made daily and an effort is made to route the packaged shipments along with the regular bulk products in order to reduce transportation costs.

Deliveries are made in refrigerated trucks. The temperature in the trucks is kept constantly at 50 to 55 degrees during shipment. Since this is the same temperature maintained in the packaging room, the products are not subjected to sudden changes in temperature that would prove harmful to quality and appearance.

As an added precaution, germicidal ray lamps are kept in operation at all times during the work day. One of these lamps is located just above the receiving tray of each of the slicers. One is above the scaling table and a fourth lamp is above the work table where one-quarter and one-half pound pieces of salami, thuringer, bologna and other products are hand-wrapped in cellophane.

The wrapping machine is also used in wrapping small consumer packages containing weiners. It is easily adjusted for the different size needed for this product.

The Glendale Company officials are enthusiastic over the success and potential of their packaging setup. The products have been well received by retailers and consumers in the Greater Detroit area in which they are distributed. Through mechanization of the slicing and wrapping operations, the company has been able to realize a reasonable profit on the packaged products without exacting a prohibitive premium from the retailer and the consumer.[8]

THE GRAND TASTE PACKING COMPANY

The Grand Taste Packing Company, a subsidiary of Rancho Granada Company of Los Angeles, California, has utilized a new flexible packaging machine. Seven varieties of luncheon meats are packaged with this machine, which can pull a vacuum, heat seal and deliver thirty half-pound cellophane pouches a minute.[9]

This successful operation actually begins with the processing of luncheon meats, however. A new mold was devised

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8. ibid., p. 23.

9. Anon., "New Machine Aids Self-Service Packaging," National Provisioner, May 13, 1950. p. 20.

and used in attaining exact uniformity in each and every loaf of luncheon meat produced. Without such uniformity the entire process would be jeopardized.[10]

On the packaging line, two 12 pound luncheon loaves are fed simultaneously into two slicing machines. One girl tends both machines. Modification of standard slicing units has increased their output from one hundred, one ounce slices to one hundred and twenty slices per minute per machine. Because the luncheon meat loaves are highly uniform, only occasional check-weighing is necessary after slicing. The compact flexible packaging line, which requires but one hundred and eighty square feet begins with the modified slicing machines placed side by side. Each machine is capable of handling the 12 pound, 4 by 4 by 24 inch luncheon loaves.

Two stacks of eight, one ounce slices come off the first unit. These slices are automatically stacked for insertion into the pouches by an intermittent conveyor, synchronized into motion by the slicing machines and geared to deliver one-half pound stacks to the package line. Stacked meat moves down the conveyor to four staggered mandrels--two on either side of the line. Thus, four packages can be filled almost simultaneously. One girl operates on both sides of the line fitting the cellophane and pliofilm pouches over the mandrels.

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10. ibid., p. 20.

She then activates a packaging device, which pushes a stack of meat into the pouch. Pouches then fall from the mandrels on to another conveyor which runs between the two packaging lines. This conveyor is continuous and carries the pouches to the rotary vacuum heat sealing unit.

Here, another girl feeds pouches into one of eight vacuum chambers arranged around the perimeter of the revolving vacuum machine. The machine pulls a maximum vacuum on sixty packages per minute. The portion carrying the eight vacuum chambers makes one revolution every eight seconds.

The machine, within limits, can easily be converted to handle packages of many sized and varied dimensions. Modification of detachable chambers is an inexpensive job.

The electric heat sealing device built into each chamber is a simple plug-in type. The Granada Company has designed the chambers to handle flexible vacuum packages of up to four pounds in a variety of shapes. The pilot model now in almost continuous operation has been turning out one-half pound sizes only, but has been successfully tested to the maximum size.

Sealed packages are ejected from the machine after the complete revolution. They are then inspected, boxed and moved by conveyor to cold rooms.

One of the factors which has kept many packers from

prepackaging luncheon meats is the relatively short life of the product. The Granada pouch is cellophane laminated to pliofilm. Use of the vacuum machine results in a minimum of three weeks package life. This is about seven times longer than the shelf life obtained in non-vacuum wrapped cellophane. This added package longevity reduces spoilage and discoloration immensely.

The Grand Taste Packing Company claims that the new machine reduces labor costs. A five-girl production line with the aid of the vacuum, heat sealing machine has produced as much as six thousand pounds of assorted luncheon meats during an eight-hour working period. Addition to the line of a new slicing machine which is still in the development stages is expected to increase production to ten thousand pounds per day.

The chief feature or improvement in the Grand Taste Company operation is the elimination of the weighing function. As has been seen, the uniformity of the luncheon meat loaves provides enough weight accuracy so that only intermittent weight checking is necessary.

In the other operations, it was seen that a major portion of the labor cost was due to the need of weighing each individual unit. The Grand Taste Company system eliminates this weighing function and consequently achieves a substantial saving in labor.

The four packing companies mentioned have made noteworthy contributions to the prepackaging field. Machines such as that used by The Grand Taste Packing Company will also play a large part in furthering the cause.

While all the activity cited in this chapter has been confined to prepackaging cold luncheon meats and prepared sausage items, only the future shall reveal the extent to which fresh meat will be prepackaged by the packers. New innovations and machinery as well as new ideas and attitudes will undoubtedly prevail to change existent opinions within the industry. New technological improvements designed to reduce perishability and spoilage will lend greatly to the progress already made.

CHAPTER VII

CONCLUSION

From a relatively humble inception in the pre-World War II years, the self-service method of merchandising meat has developed into an integral part of the retail food business.

The reasons for this growth are manifold. One of the most important reasons is the desire on the part of many operators to eliminate the traditional congestion experienced at meat counters during heavy week-end business. The conventionally-styled, service meat department has long been the main source of traffic congestion which arouses the ire of good customers. Self-service meat helps to eliminate this congestion and places the meat department on an equal basis with the remainder of the store.

Assuming a broader point of view, self-service meat will reduce the amount of investment the economy as a whole must make in food stores. This is true since self-service meat departments are capable of handling greater capacity than service departments. This saving also applies to the labor force that must be employed. Specialization on different tasks makes it possible to employ fewer skilled personnel in any given operation. Specialization provides the skilled man a means of serving more customers with less work. There is less duplication of lifting, rearranging and walking to the various sect-

ions of the department. The skilled man can concentrate his knowledge and skill on the function of meat cutting for which his training best fits him.

When a customer lingers at a self-service meat display case, it is her own time that she is utilizing, not the valuable time of a highly paid and skilled employee.

The question of where meat should be prepackaged, in a central plant or in the individual retail stores has been debated at great length by operators seeking the most efficient system. It appears that the answer can best be resolved, not by making sweeping generalizations about all meat products, but by segregating and classifying these products into two categories. These divisions are the highly perishable red meat items such as beef, veal and lamb and the less perishable but equally important luncheon meats, sausage products and cured meats.

The latter items will remain in good condition for a longer time in packaged form than the fresh meats. For this reason they can be stored at a central plant and transported later to the retail stores with less loss from spoilage.

With this division as a basis of comparison, forthright statements about where meat should be prepackaged assume more feasibility.

A central prepackaging plant for luncheon meats, sausage products and cured meats appears to have several advantages

when utilized by a chain company operating a large number of high volume stores in a metropolitan area. The increased speed and efficiency which is attained in a central plant by the use of endless belts and automatic slicing and packaging equipment results in a lower packaging cost per unit of merchandise.

Duplication of equipment is eliminated. In a central plant equipment is working all of the time. There is in a store level operation, assuming a chain of one hundred stores, it is necessary to have one hundred pieces of each type of equipment required. None of these are operated on a full-time basis. The intensive utilization of equipment reduces the amount of capital investment needed.

A central plant does a great deal to alleviate the congestion and crowding in the individual store fresh meat packaging room. This aids in increasing the efficiency of the employees working in the store.

A uniform package is attained since the same workers are performing the same job on a regular basis, and soon become efficient in the handling of the products. In addition, inventory problems with these products in each store are reduced. The store managers merely submit an order covering weekly or semi-weekly requirements. The control of this ordering can be very rigidly exerted at the central plant.

Fresh meats because of their highly perishable nature

appear to lend themselves best to prepackaging at the retail level. There is a better opportunity to control quality and freshness. Fresh meat can be processed and displayed as it is needed and spoilage control is much easier. This is true in cases where the meat volume of the individual store is large enough to allow the use of production line techniques.

On the other hand, the two operations with small volume meat markets described in Chapter V because of peculiar circumstances adopted a central packaging plant. The small volume of meat business done in each store made it impractical to employ high-salaried meat cutters. Therefore, by concentrating the cutting functions at a central plant and then delivering the finished product to the stores where it could be displayed by unskilled help a more economical operation was achieved.

Undoubtedly packaging material will be developed in the future that will retain the appearance and quality of fresh meat for extended periods. If such a material is developed, it may be more advantageous to prepackage fresh meats centrally. However, until such a material is uncovered and placed on the market there appears to be substantial indication that most prepackaging of fresh meat will be done at the retail level.

The meat packing industry has devoted a great deal of time and resources to experimentation and with the actual packaging of the less perishable meat products. This progress will continue and increase as more becomes known about the many technical difficulties encountered in their prepackaging endeavors.

By and large, the packers do not feel disposed to prepackaging fresh meats at this time. They feel that this is a function that can still be performed better at the retail level.

In the final analysis the future of prepackaged meat, whether it is prepared at the retail level or centrally rests to a great extent in the hands of the consuming public. To date, acceptance by the public has been encouraging. Retailers have responded to this acceptance by offering more and varied meat products via self-service. The ballots cast by the consuming public in the form of cash register receipts will ultimately decide the issue. If public acceptance continues at the rapid pace it has maintained in the post-war years, then the case for centralization will be strengthened. On the contrary, if unforseeable circumstances, such as a curtailment of materials and equipment caused by the Korean crisis, intervene to disrupt the progress already made, there will undoubtedly be a general retrenching program installed in the prepackaging field. Existent facilities will have to be utilized with emphasis placed on improving methods already in use.

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