THE MECHANICS AND TECHNIQUES OF PRODUCE PREPACKAGING AT STORE LEVEL

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L. S. Nemechek, Jr.

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"The Food Distribution program at Michigan State University is under the sponsorship of the National Association of Food Chains."

The Mechanics and Techniques of Produce Prepackaging at Store Level

by

L. S. Nemechek, Jr.

A Thesis

Submitted to the College of Business and Public Service of Michigan State University of Agriculture and Applied Science in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

Department of General Business
Curriculum in Food Distribution

TECHNIQUES OF PRODUCE PREPACKAGING

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AN ABSTRACT

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The writer has prepared this thesis to encourage operators of service and non-packaged produce departments to convert to self service prepackaged product operations. Presented in this study are the operational requirements necessary for prepackaging produce.

There are two advantages for prepackaging produce. First, prepackaging reduces costs. Second, prepackaging increases sales. The most important factor in the produce cost structure is the waste factor. Prepackaging produce reduces waste by minimizing customer handling and deterioration due to dehydration. Sales are increased because customers are allowed to choose from a wider variety of produce, impulse sales are stimulated and the customer enjoys the advantage and convenience of reduced shopping time.

Successful prepackaging operations have been established in produce departments with sales ranging from $500 to $27,000. Produce departments with sales of $500 or greater can successfully convert to prepackaging. The cost of equipment and installation will vary with the size of the operation. The cost of the prepackaging materials and supplies is approximately two percent of sales and is off-set by reduced labor costs.

Proper merchandising of prepackaged produce is essential if successful conversion is to be achieved. Successful conversion also necessitates correct introduction of the prepackaging; both to the customer and to the employees. The customer should be introduced to prepackaging

through concentrated advertising both at store level and in the regularly employed advertising media. Prepackaging should be introduced to the employees in special meetings and/or in training sessions.

Proper supervision and training are perhaps two of the most important factors contributing to the success of a prepackaging produce operation. Training must include all personnel levels of a produce department. Training and the creation of a favorable attitude must be initiated at the administrative level in order to obtain proper support and supervision from the key produce personnel. Department manager training should include principles of management and human relations as well as operational techniques. Employee training should include all the operational and mechanical techniques of produce prepackaging. The following four steps are recommended for training:

1. Tell them why
2. Show them how
3. Let them practice, under supervision
4. Put them on their own.

In conclusion, the writer believes that produce sold in a modern super market should be prepackaged and self service. The highly competitive condition of the super market industry requires constant change and improvement. Prepackaging appears to be one method of improving the produce department.

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INTRODUCING PREPACKAGED PRODUCE

Why Prepackage

A few years ago the supermarket revolutionized the food business; currently the prepackaging of produce is revolutionizing the produce department. Why should the housewife be offered prepackaged produce? Perhaps this question can best be answered in terms of what has happened in meat markets throughout the country. Today it is difficult to find a modern super market which does not have 100 percent prepackaged meats.

The success of prepackaged meats points out two things:

1. The customer accepts prepackaged meats.
2. Super market operators have found that prepackaging is more profitable than the traditional service meat counters.[1]

Many surveys have shown that customers prefer service meats, however, they accept self service.[2] It should be kept in mind that the customer, where surveyed, had just come from a fast and economical self service counter and undoubtedly she unintentionally biasis her answer because she forgets the long lines she used to wait in at service counters

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1. Lapides, Ezra, Techniques in Produce Prepackaging, 1955, p. 8.

2. Riley, H. M., and R. C. Kramer, What Consumers are Saying About Prepackaged, Fresh and Frozen Meats, 1955, p. 5.

during rush periods. Perhaps a survey should be conducted of shoppers who are waiting in line at service counters. It is quite possible that such a survey might show a different consumer preference.

The purpose of this chapter is not to defend self service and prepackaged meats, they need no defense. Prepackaged meats are here, they are more profitable, the consumer accepts, if not prefers, them.

Produce operators have an advantage over their prepackaged meat predecessors. From the pioneers of meat prepackaging, the produce operator can learn much concerning layout, merchandising, supervising and training, and in some cases the techniques of wrapping and sealing. Additional help may be obtained from manufacturers of equipment and suppliers who have overcome, through thorough research, many of the difficulties of prepackaging perishables. Imagination, foresight, and planning are the keys to successful operation.

Produce prepackaging is not new. Almost every produce department sells some items that are prepackaged. For example; packaged carrots, potatoes, and celery have been available to super market operators for over ten years. Admittedly, most of this prepackaging is done by the grower. What is important, however, is the fact that these items are sold and have been sold successfully for quite some time. Everyday operators are finding more and more items available in prepackaged form.

There is a variance of opinion among operators as to where the actual prepackaging should take place - on the farm, at the central location, or in the store. The writer is of the opinion that the majority of items should

be prepackaged at store level because of the highly perishable nature of the produce. Grower packed items, however, enable store operators to carry merchandise which would not be to their best advantage to package because of the quantity requirements.[3]

Prepackaged produce departments are more economical to operate than service type departments. Operators who have converted to 100 percent prepackaging report that conversion increases sales and permits a fuller utilization of labor.[4]

Super Market Institute reported that in 1955, 55 percent of its members operate self service produce departments. Sales gains of 13 percent were registered by these operators.[5] Much of this gain must be attributed to self service and prepackaging.

Advantages for the Consumer

One of the biggest advantages of self service and prepackaged produce is that consumer shopping time is reduced. No matter how hard operators try, it is still a fact that "Mrs. Consumer" considers grocery shopping a chore. The less time she has to spend in shopping for her food means more

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3. Lapides, Op. Cit., p. 8.

4. Progressive Grocer, November 1955, p. 50

5. Super Market Institute, The Super Market Industry Speaks, 1955.

time for household duties and leisure. With the advent of self service and prepackaging, she can literally breeze through the produce department with no waiting for clerks to weigh and mark each item. The customer is allowed to shop at her own pace with no clerk interference. Time savings continues at the check stand. It is much easier and quicker to handle and ring up prepackaged items because there are no prices to remember and no weighing of the produce items.

The attractiveness of the package is a factor in consumer acceptance and preference. Prepackaging allows new color schemes; and color breaks can be obtained in the package as well as in the department as a whole. The materials used in the packaging operation tend to beautify and amplify the produce.

Convenience of handling at home prompts the housewife to buy prepackaged produce. She knows it has been thoroughly cleaned and trimmed before packaging and she can place it in the refrigerator just as she bought it. Sanitation and cleanliness also stimulate the housewife to purchase prepackaged produce because the package prohibits physical contact with the item by other customers.

Waste and breakage have been eliminated by packaging. The housewife no longer has to remove leaves or broken stems when she arrives home. The rigidity of the container and the tightness of the wrap guarantees a whole product.

Successful operators point out that prepackaged produce can be sold at the same or lower price as bulk produce. If prepackaging allows the

consumer to purchase her produce at the same price or lower, certainly it will be preferred.

Advantages for Operators

Waste costs are reduced by cutting down the amount of retrim. Retrim raises expenses through produce shrinkage and extra labor costs. A Manchester, New Hampshire operator reports on his prepackaging operation:[6]

> "With the same complement of employees and the same amount of sales area, produce volume has been increased so that it now totals 10.5 percent of total store sales and the department's labor expense has been cut to a low of 6 percent of sales. Losses due to shrinkage, spoilage and markdowns have been cut in half from 3 to 1.5 percent; while gross margins on sales average out to 28 percent over the period prepackaging was adopted."

Many operators have reported the same or similar results, indicating that operators large and small are profitably prepackaging produce.

The expense of housekeeping is reduced by prepackaging. Operators have long experienced the "Saturday night blues" when they had to tear down displays and clean racks. Even in the dry bins, flakes of skin, peel and dirt have always increased the amount of work necessary to make the department "Kitchen Kleen". With prepackaging dirt, skins, and peels are practically eliminated, thus cutting down the amount of time required to police the department. Packaging also cuts down the danger of customers slipping on leaves, etc., with possible damage suits resulting. Safety is economical.

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6. Progressive Grocer, November 1955, p. 51.

The actual packaging operation cuts labor costs. The assembly line, mass production that is so prevalent in heavy industries, can be, and is being applied in the prepackaging operation.

The claim that prepackaging is too expensive because of the cost of materials used is exaggerated. Operators are already using a packaging operation. Kraft bags are extensively used in service operations, and they represent a considerable expense to these operators. In a prepackaged operation the expense of the Kraft bags is replaced to a considerable extent by prepackaging materials. Therefore, the cost of the prepackaging materials is actually only the difference between the cost of the packaging material and the old style Kraft bag wrap.

The problem of keeping perishable displays looking fresh and neat has been a major problem to produce department managers. Because of the variety of sizes, shapes, and forms of produce displays are difficult to build. However, prepackaging allows displays to be built that do not require the tedious, unit by unit, stacking formerly done in bulk departments. The use of multi-unit bags and trays permits displays to be built and restocked with a minimum amount of time and effort. Greater uniformity and neatness may also be achieved with the use of bags and trays.

Spoilage and wilting due to exposure and handling contribute to the high expense ratio of bulk produce departments. Prepackaging decreases evaporation and customer handling of the items, thus increasing shelf life. The packaging films prevent the warmth and perspiration of customers hands from coming into contact with the produce. The film also reduces evaporation.

Produce breathes, giving off moisture and absorbing oxygen. This moisture is not so readily lost due to the wrapping material surrounding the item.

However, some breathing must take place so that there will be a certain amount of gas passage. Film manufacturers have allowed for this and have made available films of a porous nature. In the cases where certain produce requires additional ventilation, holes may be punched in the film to allow for the extra passage of air and gas. A more comprehensive discussion of films follows in Chapter II, entitled, "Produce Prepackaging Materials and Supplies".

High standards of quality control and uniformity that were impossible to achieve with bulk produce can be maintained with prepackaged produce. By determining what size (length and/or weight) item should be used in a specific bag or wrapping, a department manager can trim to specific lengths and attain the desired uniformity. Also, since each item is individually washed and trimmed before wrapping, the desired quality can be maintained.

Quality must be sold to the employee as well as to the consumer. The employee must be impressed with the fact that nothing but top grade and quality produce is to be packaged. Often an employee or department manager will hedge on his responsibility to insure only quality packaging. For example, a piece of fruit may be "slightly" over-ripe. The employee puts the soft side down rather than throw the item away. What happens? In a few hours the item is "really" ripe and makes the whole package unsaleable. Even if the package is sold, the customer becomes aggreviated when she discovers the deception. Thus another customer may be lost and prepackaged produce

receives a blackeye. Therefore, to set and observe only the highest quality standards is a necessity for successful produce prepackaging. There is no substitute for quality, this is a necessary education point that must be made to employees.

Closely allied with standardization and quality control is the appeal the package has of itself. Assuming the produce is of top quality, prepackaging emphasizes and highlights that top quality produce. When one looks down the "glass aisle" of a super market he is attracted by its sparkle and uniformity. The film and other materials used in prepackaging add sparkle and attractiveness to the produce. With appropriate color breaks and package designs, produce covered with sparkling film can make the produce the jewel of the super market.

In addition to the usual color breaks used in a produce department, Busley's Supermarket Company, Denver, Colorado, also uses color or variety breaks within individual packages. For example, apricots and plums, grapes of different varieties are packaged together. Busley's reports that not only are impulse sales increased but less popular merchandise often shows a sales increase.

Accurate inventory control has long been a problem in the produce department. However, with prepackaged produce a new and accurate method has been made possible. As Mr. Lapides puts it:[7]

> "In the last analysis, inventory control is one of the most important phases in any operation. It is directly responsible

7. Lapides, Op. Cit., p. 11.

> for having the right items in the case at all times as well as the proper quantities of the items. The rotation of the items can be controlled so that the oldest items will move out first. By counting the number of packages, the cost and selling prices of the total inventory can quickly be determined, thus turning the most difficult-to-inventory department into the easiest one. This in itself is important. With the advent of pre-packaged produce it is possible to have produce figures readily available at all times."

Prepackaging produce also helps to solve the problem of price marking produce. First, errors which may occur at the check stand resulting from smudged pencil marks can be eliminated with the use of new labeling equipment and machines. Automatic labeling machines are available which print with non-smear ink.

Secondly, labeling also helps to minimize customer complaints. The most frequently mentioned criticism of prepackaged meats was that people did not know how long the meat had been packaged.[8] Correct labeling giving (1) the date of packaging, (2) weight, and (3) price, would help to build consumer confidence in prepackaged produce as well as in prepackaged meats.

Another advantage offered in prepackaged produce is speed of consumer shopping. Speed in shopping is as important to the operator as it is to the housewife. By freeing her of waiting and irritation, the housewife can spend more time looking over items in the produce department and in other departments of the store.

The effect of prepackaging produce on consumer speed of shopping and a resulting increase of sales is substantiated by a survey conducted by

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8. Riley and Kramer, Op. Cit., p. 51.

E. I. Du Pont de Nemours and Company. Du Pont surveyed the shopping habits of 10,000 shoppers in service and prepackaged produce departments. The survey results revealed that:[9]

A. 5,000 shoppers spend 220.1 hours in service produce departments.

B. 5,000 shoppers spent 167.4 hours in self service produce departments.

C. 5,000 shoppers bought 11,859 items in service produce departments.

D. 5,000 shoppers bought 14,095 items in self service produce departments.

While shoppers spent 24 percent less time shopping in self service prepackaged departments, they bought 16 percent more merchandise. From these facts it is possible to conclude that (1) self service prepackaged produce departments sell faster and (2) self service prepackaged produce departments sell more.

The advantages gained by the consumer are advantages gained by the operator. The consumer is boss. If the consumer wants and prefers prepackaged produce this in itself is indicative of a need for investigation into prepackaged produce.

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9. E. I. Du Pont de Nemours and Company, Prepackaging - An Approach to Produce Profits, 1951, p. 9.

CHAPTER II

PREPACKAGING MATERIALS AND SUPPLIES

Films

The materials most frequently used in prepackaging produce are:

1. cellophane
2. cellulose acetate
3. polyethylene
4. pliofilm
5. mylar
6. polysel
7. saran

Mylar, polysel, and saran are relatively new types of film and are not too widely used at the present time in the packaging of fresh produce. What is important, however, is the fact that film manufacturers are striving to improve and create new materials for the packaging field.

These materials have the essential characteristics necessary for the packaging process. They are flexible, transparent, printable and heat-sealable. However, no single film has all the necessary attributes for all packaging applications. Cellophane manufacturers make many types of cellophane to meet the requirements for prepackaging the various types of items.

Mr. Lapides explains these types of cellophane as follows: [10]

"The cellophane companies have code letters and numbers attached to the types of cellophane used. The Du Pont Company and Olin Industries use the same code letters and numbers.

MSAT-80 is the Du Pont classification for the proper film to use on fresh meats. Most users of cellophane are familiar with the MSAT-80 classification, yet not too many realize what it means.

In the case of this particular film:
M - means moisture proof
S - means heat-sealable
A - means anchor-coated
T - means transparent.

This film carries all of the above classifications because of the nature of fresh meats. The 80 is the code number for the fresh film."

The Du Pont classification for the entire film line is as follows:

A - anchor-coated
C - colored
F - flame resistant
H - particularly resistant to blacking
L - less moisture proof than standard
M - moisture proof
P - plain
R - rancidity retandant
S - heat-sealable
T - transparent

Cellophane is manufactured in three gauges or thicknesses, 300, 450 and 600. The 300 is about .0010 of an inch; the 450 is about .0014 of an inch; and the 600 is about .0017 of an inch.

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10. Lapides, Op. Cit., pp. 30-31.

By using the code numbers (previously listed) and the gauge number it is possible to determine exactly what qualities a given type of cellophane has. For example, 600 MSAT is a moisture proof film, heat-sealable, anchor coated, transparent, and .0017 of an inch thick.

The cost of cellophane per pound is the same in all gauges. However, the cost of the thicker film is more because the footage per pound is less.

Most of the films used in packaging are sold by the pound. In most cases the manufacturers make known the number of square inches per pound. With this information, it is quite easy to figure the film costs per thousand square inches. This may be done by dividing the number of square inches per pound into the cost per pound thus arriving at the cost per thousand square inches. From this point, it is then possible to determine the cost per sheet of the various films.

Cellophane is heat-sealable, transparent, flexible, and printable. It accepts the band of thermoplastic labels, is permeable to gases and has a fine appearance package-wise. Cellophane is used on tray-wrapped items as well as bags up to a two pound quantity. Anything two pounds or over should be packaged in polyethylene or pliofilm which have better tear resistance. The types of film for produce prepackaging are LSAT and MSAT, or the Sylvania equivalents, DSB or MSBO provided perforations are present.[11]

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11. E. I. Du Pont de Nemours and Company, Inc., Chart for Prepackaging Fruits and Vegetables at Store Level,.

Two other manufacturers of cellophane are the Sylvania Division of the American Viscose Corporation and Olin Industries. Both companies are reputable manufacturers of fine grades of film. The volume of cellophane sold in the country today is many times greater than all the other types of film combined.

Another type of film used in prepackaging produce is cellulose acetate. The biggest advantage of cellulose acetate is that it needs no perforations. Growers and packers who have machines that seal it by means of glue or paste use this film to a great extent. Among the other qualities of cellulose acetate are that it is printable, transparent and flexible. This film is manufactured by the Celanese Corporation of America under the name of "Lumarith".

Pliofilm is a heavy duty film used for packaging such items as potatoes, carrots, and citrus fruits. The pliofilm has fine transparency, stretch properties, and is printable. Goodyear corporation manufacturers pliofilm. It may be obtained from a number of suppliers.

Polyethylene is one of the latest films which has become commercially available. Although polyethylene is less transparent than other types of films, reports from manufacturers indicate that it will not be too long before fully transparent polyethylene will be made available. The advantages of this film are as follows: odorless, tasteless, unaffected by water, very strong and pliable, non-blacking and very printable. Heavier items are usually packaged in polyethylene.

Polyethene is manufactured in several gauges; but the one and one-half mil are the ones preferred for most packaging operations. One and one-half polyethylene can be used for bags to up 100 pounds. Although some packers are using two mil polyethylene for 10 pound packages of potatoes, most convertors have very satisfactorily used one and one-half mil film in the whole produce line.[12] A substantial savings may be obtained through the use of one and one-half material whenever possible.

Bags

The most popular, most economical, and in some cases the only way to package produce is in bags. In the long run bags are easier to handle and much cheaper; due to savings in material costs and labor costs. Some operators use bags almost entirely in the packaging of produce.

Bags can be purchased either plain or printed in color. Colored bags offer three big advantages. First, the color adds attractiveness to the package. Second, labeling is printed on the outside of the package, thus eliminating label heat sealing or placing the label inside the package. And third, price marking is made easier because of the predominent price marking spot.

To retard deterioration due to dehydration and wilting, produce must have ventilation. Purchasing bags that are already perforated saves time and perforating equipment costs. Cellophane bags are perforated with minute, almost invisible holes. The polyethylene bags are perforated along the sides with a series of one-eighth or one-fourth inch holes. The one-fourth

12. Lapides, Op. Cit., p. 31.

When trays are used, perforations must be made in the film wrapping. A perforating wheel may be used. Manufacturer perforated film is available with fine slots cut in the films. The slots are almost invisible but provide adequate ventilation.

There are several types of trays on the market. The molded and the treated trays are the ones recommended for produce prepackaging. The trays are available in a number of sizes; ranging from five to ten inches in length and three to six and one-half inches in width. All trays are approximately one inch deep. Colored trays have recently been made available and do much to beautify the packaged produce.

Back boards are also used in prepackaging produce. They are similar to those used in prepackaged meat operations. Citrus fruits, plums, apples, etc., are wrapped on these boards to obtain a rigid and firm package.

Labels

Label manufacturers have done an excellent job in designing labels. Labels fall into three general classifications: intra-package, heat seal and saddle.

The saddle label is placed over the top fold of the bag and then affixed by staples of heat sealing. When using plain bags, a saddle label is used for brand and price identification. The saddle label can be purchased custom made or from dealer's stock.

The intra-package and heat seal labels can be purchased either custom made or from dealer's stock. The intra-package label is moisture proofed to

prevent smearing and deterioration. The heat seal label has a thermoplastic backing which permits permanent affixation to the package.

National Cash Register Company manufacturers a machine for marking labels. It operates like a cash register and ejects a label size piece of tape, either plain or multi-colored, with all the necessary information printed on it.

Toledo Scale Company also manufacturers a machine which does the labeling and weighing in one operation. The label is ejected from the label dispenser, then placed in a slot in the machine after the merchandise is weighed. The accurate weights are printed onto the label automatically.

Merchandising can be done through labels as well as in the store operation itself. New ideas in labeling, within the plain or printed colored bags, help carry the merchandising ideas right into the home.

In the era of "service in self service markets", the idea of label menus has become very popular. Meat market operators have used these "talking" labels very successfully to suggest cooking preparations for the various cuts of meat.

Produce operators can take the cue from the market managers and merchandise their produce through the use of menus and "talking" labels. Women welcome cooking suggestions and recipes for new methods of preparation. Operators should remember that women do not blame their cooking if produce is tasteless, etc. She blames the produce. A merchandise-wise operator will suggest preparation for fruits and vegetables through his package advertising.

Illustrated or "talking" labels can be used very effectively with either cellophane or polyethylene bags and also as inserts in "trayed" merchandise. Labels can be obtained in heat seal stock, board stock for stapling, or in greaseproof stock for package insertion.

Bag top and other large size packaging labels can be quickly and economically imprinted by an automatic labeling machine called the " Roto Kimco". This machine will produce a label from a minimum size of 1" by 5/8" to the maximum size of 6-5/15" by 4-3/8", at a speed of 160 labels a minute.

The Rote Kimco prints from easy-to-use metal logs or from rubber mats which slide easily into grooves. Changes are made by slug inserts. The Roto Kimco labeling machine will accommodate heat seal, pressure sensitive gum, greaseproof or plain labels. This new piece of equipment also has a cut-off knife and a stacking devise. It is equipped, too, with a reset counter so that the operator can actually keep track of the numbers of each item name labeled. These labels come in fan-fold or roll form.

Tape

Tape used in the packaging operation can be of three types: twistems; that used by the Tapelock machine and; a gummed Kraft tape. Twistems are covered pieces of wire which can be twisted around the tops of polyethylene or cellophane bags. These twistems are manufactured in one-fourth and one-half inch widths and in lengths from three to twenty inches. They can be obtained in various colors and with the super markets name, price, and other data imprinted on them.

The tape used with the Tapelock machine can be obtained from the machine manufacturer. This tape is dispensed from a roll and bound around the bag tops. Tapelock machine tape is available in several colors.

The gummed Kraft tape can be used for an item such as bananas. The tape is used as a wrap around and usually has a price marking spot. Paper jobbers or label manufacturers sell this gummed tape.

Tags

Most operations have occasional need for clip tags which clamp onto the packaging material. Also available are self sticking "reduced for quick sale" tags. Both the self sticking and clip tags are used for marking sale items or older merchandise. This type of merchandise should be sold in plain packages or dump tables so as not to confuse customers with regular merchandise. Tags are relatively inexpensive and should be used on such items that are not taped or bagged.

Storage

Bags and sheets should be stored in their original containers until used. Storage should be in a cool, dry place. Care should be exercised in selecting a storage area where the temperature is around 65 to 75 degrees. Storage should never take place in an area where the temperature is below 32 degrees. A humidity of about 65 percent is recommended to keep the films from drying out.

The following are some general rules for proper use of prepackaging material and supplies:

1. Determine the best type package for each produce item.

2. Use the smallest size bag, sheet, or tray for the individual package which will conveniently accommodate an item.

3. Store all packaging material in a safe, convenient, cool and dry place.

Appendices I and II contain recommended procedures for prepackaging fruits and vegetables at store level. The packaging details presented in these charts are as follows: preparation, type package, material type, material size, closure, packaging method.

CHAPTER III

PREPACKAGING EQUIPMENT

Mechanization of the prepackaging operation is a necessity if the fullest utilization of space, materials and labor is to be obtained. Packaging equipment plays an important role in mechanization of the prepackaging operation. The establishment of a mechanized assembly line operation tends to reduce labor costs which are the second highest operating expense; second only to merchandise costs.

Equipment, therefore, plays an important part in the development of a successful prepackaging operation. Equipment manufacturers have greatly aided operators by designing and producing equipment that is readily adaptable to almost any type of prepackaging operation. The experience of the writer indicates that manufacturers fully cooperate with operators in adjusting their equipment to a specific operation. Equipment manufacturers also offer suggestions, backed by research, as to the latest packaging techniques and layouts.

The equipment required for prepackaging is not expensive when considered in the light of its utility; nor does the equipment have to be elaborate. The value of any equipment is measured in terms of the efficiency it produces and the type of work that it performs. Equipment and equipment costs will

vary with the size of the operation. At the end of each equipment description is an estimate of the minimum dollar volume which can most economically support the equipment. The cost of the equipment (where available) is also given.

Wash and Trim Unit

The wash and trim table is much more than just a sink. It should be constructed so as to have adequate space for washing, trimming; and a holding bin for rewashing and draining. Average specifications for such a wash and trim table are as follows: approximately 5 feet long, 30 inches wide and 36 inches high. This type of unit can fit into any line of production and is very efficient. For large scale operations, two such tables may be utilized. Cost, approximately, is as follows:

without disposal	$ 265.00
with light disposal	695.00
with heavy disposal	1385.00

Used in conjunction with the wash and trim table is the waste disposal. Its specifications are: height, 36 inches; width, 23 inches; and length 50 inches.. It can and should be incorporated in or between trim and wash tables. In one operation viewed by the writer, the disposal equipment was the basis of the wash and trim table. Its length was extended by wooden shelving covered with metal. The operator stated that he had found greater utility in such an arrangement because it can be tailor-made to the stores operation.

Packaging Table

The packaging table described here is one of the many on the market today. Its many features simplify the packaging operation. Its construction tends to eliminate lost motion because all the required smaller equipment and supplies are handy to the operator.

The table is constructed of gray metal throughout except for the table top which is of meat board construction made of hard laminated two inch strips, two inches thick. The table is eight feet long, 30 inches deep and 36 inches in height to fit in with the wash table specifications and other such equipment specifications.

The packaging table is wired to four outlets which accommodate all the electric sealing devices as well as scales if required.

There is a complete set of bag bins; enough to satisfy the varied bag size requirements. Beneath the bag bin are fluorescent tubes whichilluminate the work table. There is also a shelf for sheet materials and other miscellaneous items which the operator may need and use.

The lower front edge has a metal strip all the way across it to hold any or all funnels. This allows the funnels to be placed at any spot along the table edge.

Adjustable shelving is also a feature of the table. They are located under the funnels for holding hampers or crates of merchandise. Drawers are also built in to hold clip tickets, tape, rubber bangs, etc. Operations anticipating $1500 a week or over should have and use such a table. Approximate cost of such a table is $335.00.

Methods of Filling

There are two methods of filling bags. One is by hand and the other is by semi-automatic equipment.

For the majority of operations and for most stores, the funnel system of bag filling seems to be the best. These funnels enable the item to be put into the bag more quickly and easily. For items such as lettuce and celery, which have a great tendency to cling, these funnels are almost a necessity. The funnels can either be clipped onto the packaging table or fitted into slots provided on the table.

Lettuce funnels have fingers on them which fit into the bag, so that when the lettuce is placed inside the bag it does not stick to the bag sides. The celery chute provides the same feature for celery or other long stemmed or leafy items.

Funnels may be purchased in sets or individually, according to the needs of the operator. The funnels are available with varied opening sizes. Three of the most popular and utilizable sizes are: 3-1/8 inch, 4-1/2 inch, and 5-1/2 inch. It is advisable for any operator to have these three funnel sizes, a celery shute and a lettuce funnel.

Also available on the market is a new type lettuce packaging machine. It operates as follows: a head of lettuce is first placed on a sheet of cut-to-size cellophane over the feeder opening. The operator pressed the lettuce down into a metal basket (inside the machine), then throws a switch which seals the cellophane overwrap. After it is sealed, the complete package is

automatically ejected. This machine should be used only in extremely large volume operations.

Costs of the funnel sets are as follows:

set of three funnels	$18.00
celery chute	10.00
lettuce funnel	12.00
	$40.00

Scales

All of the national scale manufacturers have scales which are adequate for packaging produce. In the majority of cases, the standard prepack scales are used. Some operators use a curved scale pan or scoop type top to prevent items from falling or rolling off. This also aids in the bagging operation. Approximate cost of standard prepack scales is $85.00.

Toledo Scale Company has developed a prepack scale called "Serv-a-Label". This scale automatically prints the weight, price, dates the package, and the name of the super market on the label. The scale price reading is punched into a key board much like that of a cash register. This machine and others like it are most economically fitted to large scale operations.

Sealing Equipment

The most popular method of closing cellophane is by heat. Three of the most popular devices used for sealing are: the hand iron, the hand crimp sealer, foot crimp sealer. One or more hand irons are required in any packaging operation. They are used in sealing trayed and direct wrap

packages, as well as for putting on labels. The newer irons have thermostatic controls on them so that films requiring different sealing temperatures may be properly sealed. (cost $9.95)

The hand heat crimp sealer is a portable sealer which is used for heat sealing bag tops. It has an adjustable thermostat for changing the temperature for the different types of films. It has a teflon cover.[14] (cost $9.95)

The foot crimp sealer is a permanent attachment to a table and is foot operated. It is used for high volume bag sealing operations and can be obtained with a teflon cover. (cost $69.50)

Sealing may also be accomplished in a number of other ways, such as:

1. hand dispensed gummed tape
2. paper covered metal twist
3. metal crimp band
4. plastic slip tag
5. electric taping machine
6. staplers
7. automatic heat sealers
8. sewing and sticking machine.

Perforations

Proper perforations are a necessity for a successful prepackaging operation. Consequently a perforator is a required piece of equipment. Since all items don't require the same amount of ventilation, some additional perforating is necessary. However, it is economical both in time and materials to purchase bags which have already been perforated.

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14. Teflon is a plastic which is placed between the sealing surface of the iron and the film, in order to prevent sticking of the film to the iron.

Marking Equipment

In selecting the proper marking equipment, care should be exercised to see that all the necessary information can be printed with it. Information such as pounds, ounces, price per pound, for the and other pertinent information such as dollars and cents must be printed by this equipment. N. C. R. marking sets, N. C. R. stampers, etc., are the most popular types of marking equipment. The approximate cost of stamping sets is $11.95.

In addition to stampers and marking sets, ball point pens and felt nebbed pens are also quite popular. The felt nebbed pen is quite effective for writing on cellophane and polyethylene. The pen uses quick drying ink which has a good adhesion quality. This pen costs approximately $1.75.

Automatic Baggers

Automatic baggers are most economical for large scale operations. They are designed for high speed bagging of such items as onions, potatoes and citrus fruits. One man can operate the machines. They will bag and weigh items from one to fifteen pounds automatically. As was mentioned previously, this type of equipment is economical only for a large scale operation. The approximate cost of an automatic bagger is $865.00

Other equipment such as conveyors and rolling equipment is also available. However, it is the intent of the writer to enumerate only such equipment that is basic and fundamental to a produce prepackaging operation.

CHAPTER IV

LAYOUT

In order to understand better the design and layout of the prepackaging operation, it is necessary to give a complete description of the packaging work flow.

Work Flow

Most packaging should take place in the rear of the store. By so locating the packaging area, the operation will gain the economy of short distances between the receiving door, the work area, the cooler and the sales area. The work flows between these areas and is described by Mr. Lapides as follows:[15]

> "The work flows in a simple logical sequence, which if followed, will make the operation easy to handle, and will turn out a product which will be attractive and will hold up for a maximum length of time is as follows:
>
> 1. Receive and check.
>
> 2. Items which require refrigeration should be put into the holding cooler at once and left there until the packaging room is ready for them. There is a direct proportion between the refrigeration of the produce and its holding time in the case. The better the refrigeration, the better and longer the holding time.

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15. Lapides, Op. Cit., p. 10.

3. Whenever the produce is required in the case or according to an established work schedule, it should be taken to the wash and trim area. There it is trimmed to the required limits, and then either washed or sprayed with a pressure hose and allowed to drain.

The next four steps are interchangeable and will be treated as two separate operations. The reasons for this are as follows: if the items are random-packed, or catch weighed, they can be weighed after they have been packaged. If the item is a set-weighed, then it must be weighed prior to packaging.

Catch Weights

4. Fill the package to a predetermined point.

5. Seal the package with the type of closure being used.

6. Weigh the package in order to determine the weight and price which must be put on it, taking care to allow for the tare weight of the package.

7. Mark the required information on the package.

Set Weights

In using set weights, the package can be premarked since the amount that is going to be put into each package is already known. This changes the sequence of the last four steps.

4. Mark all packages with the required information.

5. Weigh the merchandise to the predetermined weight.

6. Fill the package with the merchandise.

7. Seal with the type closure that is being used.

The last two steps remain the same regardless of the weighing method being used.

8. Put the merchandise into storage or under refrigeration as required.

9. Place the merchandise in the sales cases."

Layout

The following figures are reproductions of successful packaging room layouts. The writer selected these layouts for presentation for the following reasons. First, the layouts represent prepackaging operations with different sales volume, employee, and space requirements. Second, work flow and merchandise movement are clearly indicated.

FIGURE I

The layout is one that is now installed in a new Hudson and Thompson Piggly-Wiggly, Montgomery, Alabama. Permission for reproduction was granted by Mass Distribution Publications Co., Inc.

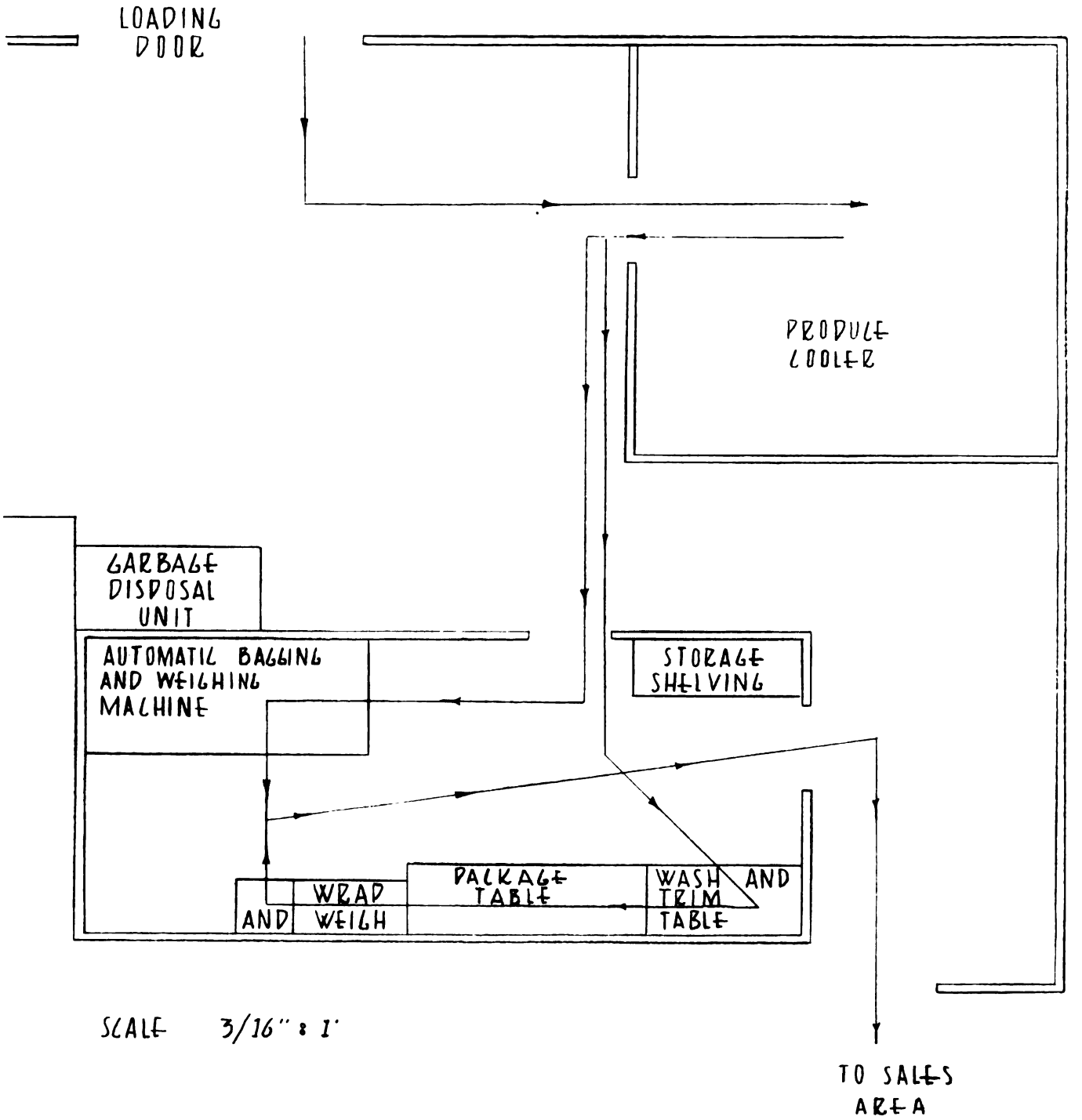

LOADING DOOR
PRODUCE COOLER
GARBAGE DISPOSAL UNIT
AUTOMATIC BAGGING AND WEIGHING MACHINE
STORAGE SHELVING
WRAP AND WEIGH
PACKAGE TABLE
WASH AND TRIM TABLE
SCALE 3/16" = 1'
TO SALES AREA

FIGURE I

FIGURE II

The packaging room illustrated in Figure II is in the Be-Wise Food Store, Biloxi, Mississippi. Reproduction permission was granted by Mass Distribution Publications Co., Inc.

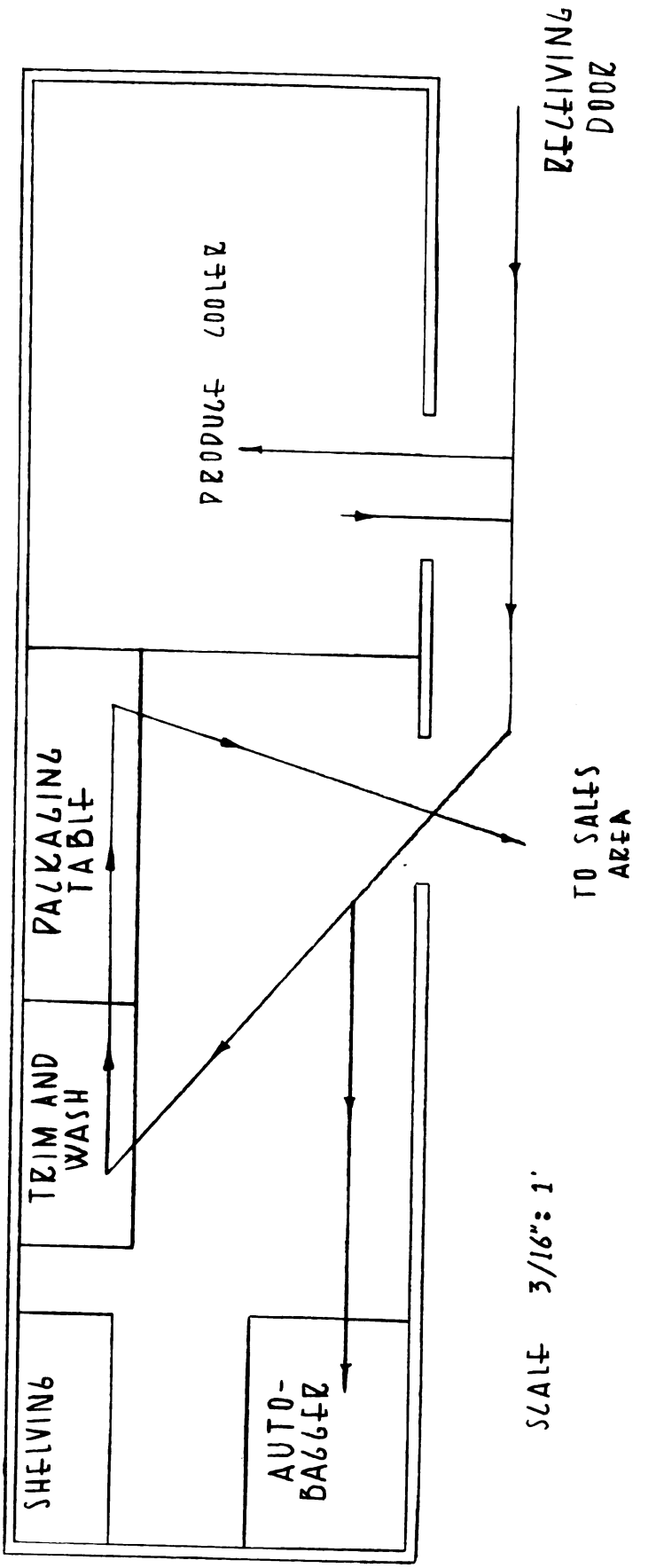
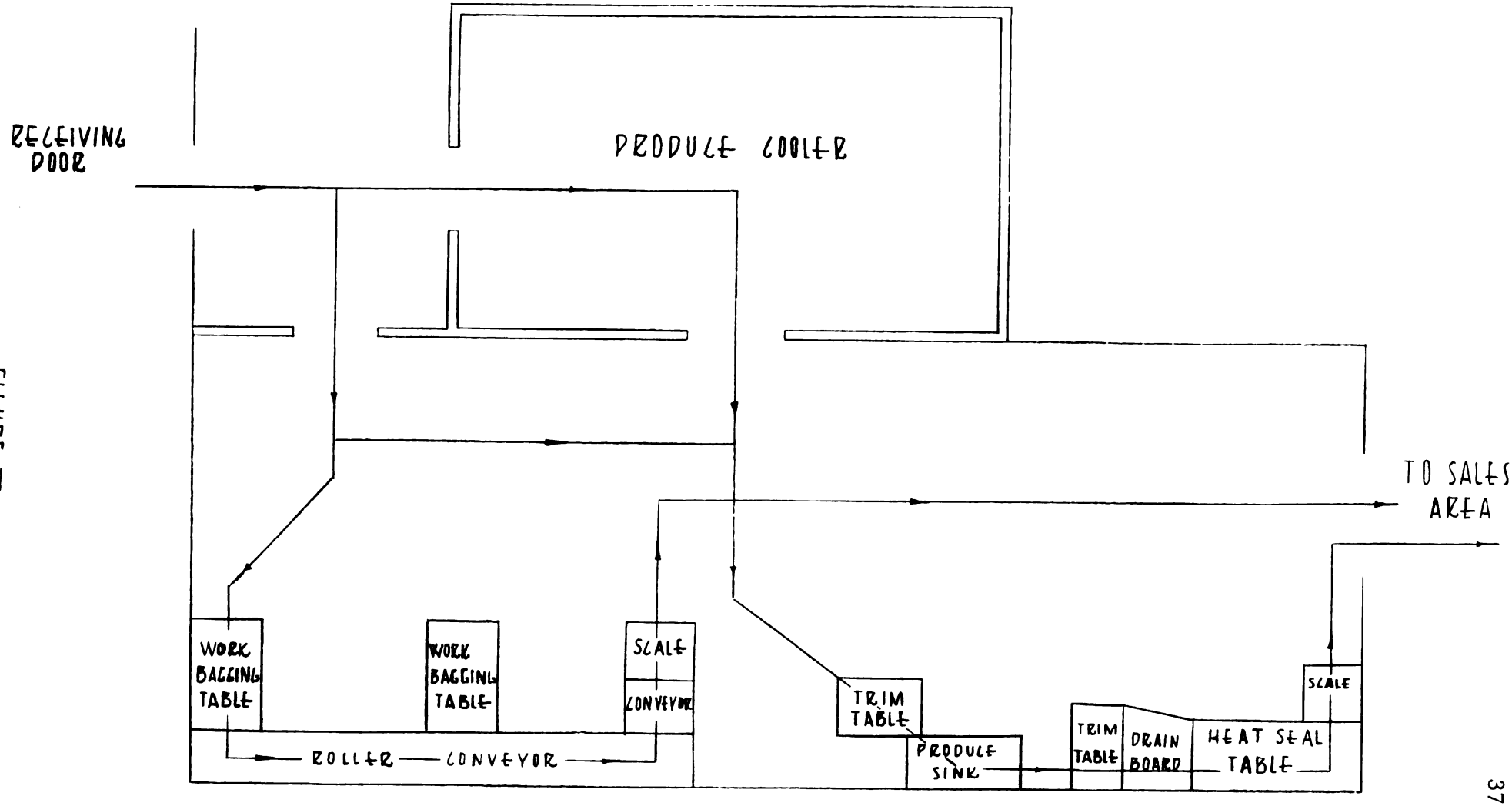

RECEIVING DOOR
PRODUCT FLOW
PACKAGING TABLE
TRIM AND WASH
SHELVING
AUTO-BAGGER
TO SALES AREA
SCALE 3/16" = 1'

FIGURE II

FIGURE III

Albers Super Markets, division of Colonial Stores, Incorporated uses this layout. Permission for reproduction was granted by Albers Super Markets. Original tracing was submitted by F. Joseph Zimmerman.

FIGURE III



SCALE 3/16" : 1'

CHAPTER V

MERCHANDISING

Perhaps the most important phase of prepackaging produce is merchandising. Merchandising techniques must be as modern as the techniques of packaging if successful conversion is to be attained. Once the decision has been made to prepackage produce, it is important to inform, educate and sell the customer on the change. This selling job may be done through the media of radio, television and newspapers.

Operators who have successfully converted to prepackaged produce recommend that conversion should be 100 percent where possible. This does not mean that conversion is to be completed overnight. However, conversion should be governed by the rate of customer acceptance. Some operators have found that a drastic change causes customer dissatisfaction and frustration. Experience in introducing prepackaged meats indicates that customers must be sold, that is, led to acceptance of the new process. By taking the necessary time for conversion, operators can gain valuable information concerning customer preference as well as packaging techniques.

Ezra Lapides, prepackaging consultant, makes the following

recommendation concerning the introduction of prepackaged produce:[16]

> "The opening date having been set, instruct your office girl to type copies of the opening release and send it to all of the following:
>
> Woman's page editors of all daily and weekly papers in your city, radio woman's show and food commentators, and television woman's show and food commentators.
>
> Have several photographs taken of a woman shopper at the Prepackaged Produce Department with a sample package in her hand. Quote her comments on the items and send to all newspapers who carry your normal advertising. They will be happy to use this as a news release .
>
> The following slogans may be featured to good advantage in all advertising, store or newspaper:
>
> Packaged fresh daily
> Cleaner more sanitary (protected from dust, dirt, and handling)
> More convenient (makes shopping faster and easier)
> Easier to prepare (prewashed, trimmed, and graded)
> Handy package for home storage
> A size for every table need
> Same low prices as bulk
> Select your own
> More variety
> Weighed and priced
> Guaranteed fresh or your money back
> Bags reusable in your refrigerator
> No waste (all unusable parts trimmed prior to packaging)"

The successful conversion to prepackaged produce requires a two-fold selling job; selling the conversion to the "boss - Mrs. Consumer", and selling the conversion to the employees. Converters to prepackaged produce cannot expect to sell prepackaging to the consumer unless their salesman have been presold. Supervisors and buyers should hold meetings with department managers and employees. The meetings should consist of a detailed

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16. Lapides, Op. Cit., p. 42.

explanation of the advantages of the prepackaging operation and a question and answer period. Cooperation and enthusiasm can be obtained by getting the ideas and suggestions on the prepackaging operation from department managers and employees.

The importance of employee attitude is evidenced in the following example. Busley's Supermarkets Co., Denver, Colorado, states that one of the reasons for their lack of success in prepackaged produce was the department managers attitude. The department manager feared that his bonus would suffer as a result of the change. He, therefore, didn't have the full desire to make the conversion successful. When the conversion failed to result in any increase of sales, the manager lost interest and initiative. The situation could have been prevented by guaranteeing the manager a bonus based upon an average of his past bonuses.

Ordering

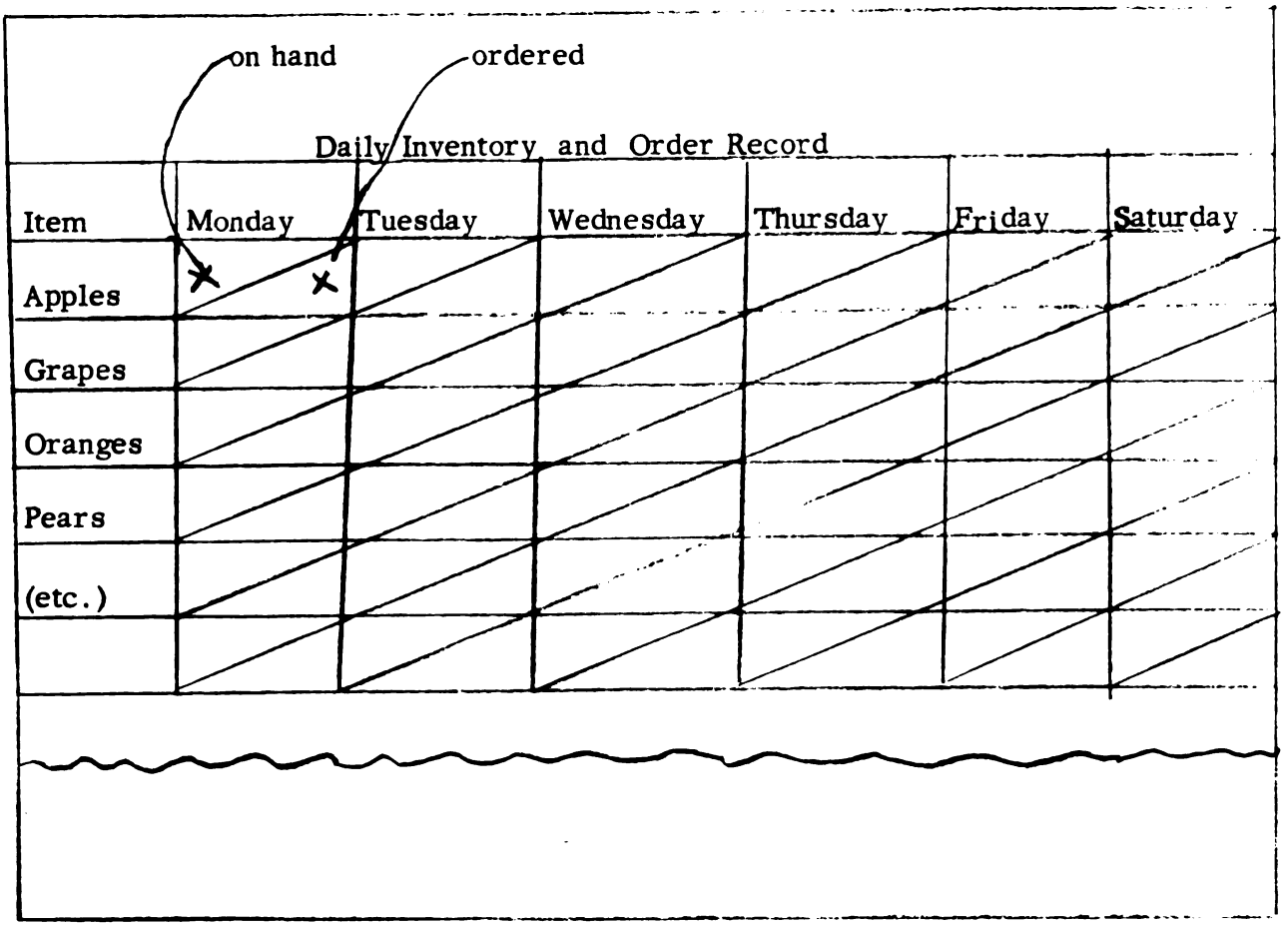
The first step of successful prepackaged produce merchandising is ordering. The old saying "Goods well bought are half sold", more than holds true in the produce department. Since produce is highly perishable, accurate and intelligent ordering benefits the department through fresher merchandise, adequate stocks and a decrease in spoilage. Quality and freshness are the best salesmen of prepackaged produce; and there can be no substitutes for them.

There are many things to be taken into consideration when making up produce orders. The following are points that should be checked before making out a produce order.

1. Check stock on hand:
    a. cooler stock
    b. backroom stock
    c. order or orders placed but not received
2. Make up order on the order sheet:
    a. check produce bulletin and price list
    b. check advertised items
    c. check display needs
    d. check the day's markdowns and spoilage
3. Important considerations:
    a. consider weather conditions
    b. consider holidays and local festivals
    c. consider neighborhood preferences
    d. consider possible related item tie-ins with the meat and/or grocery departments.

A common error made by department managers is "approximating" merchandise quantities that will be needed. There is no substitute for accuracy, and accuracy cannot be obtained by guessing. Guesswork can be eliminated by the use of a daily inventory and order record. A relatively small amount of time is spent keeping a record of this type and waste and spoilage costs can be greatly reduced. A simple chart such as the one

presented below, will serve managers as a guide for accurate ordering. The chart, if kept faithfully, may also serve to record product movement.



Offering an adequate variety of produce provides the operator with an opportunity to get those "extra" sales that increase gross profit. Packaging will frequently increase impulse sales on tradtionally slow moving items because of the glamorizing effect of the packaging material. A careful check should be periodically made on the variety of items available to produce departments.

Receiving

Even chain-owned produce houses cannot always maintain complete control over quality due to climatic and other growing conditions. The department manager must, therefore, set his own quality control methods to insure that the merchandise received corresponds in quantity and quality to the invoice description.

Control is exercised through careful inspection. Quality and quantity inspection should take place immediately upon the arrival of produce in the storage or receiving area. The department manager or his assistant should make the inspection because he is responsible for the profitable operation of the department.

The inspection period is the time to decide which merchandise should be sold at once and which can be kept on hand for selling later in the week. The relative condition of the newly arrived merchandise should be the determining factor in making the decision.

While it is not a good practice to compromise on quality in a packaging operation, it is not always possible or practical to reject merchandise that does not meet store standards. Occasions may arise where the merchandise can be sold as bulk or at a reduced price. However, customers must be made aware that the produce is of sub-quality. This awareness may be accomplished with point of sale signs or posters. Under no circumstances should sub-quality produce be packaged and offered for sale as top grade merchandise.

Quality, even in top grade merchandise, will often vary in the same container. It is recommended that the produce in each container be checked and graded prior to packaging. This will insure that a package will contain products of uniform size and condition.

Many operators of prepackaged produce departments in which transparent film wraps are used, feature produce of two grades. The second grade produce is placed in packages suitable for self service selling, yet not film wrapped. The procedure serves two purposes. First, customers soon learn that only top quality produce is film wrapped and second grade merchandise is easily recognized by the type package in which they are placed. Secondly, operators can gain greater sales because of the department range or variety of price.

Prepackaged produce demands top quality standards. However, it is advisable to at least establish a method of handling second grade merchandise so that the general quality appeal of prepackaged produce will not be destroyed.

Displaying

The key to successful displaying is advanced planning. A display plan should be made up before any stocking is done in the produce department. Planning may take additional time in the short run but it is much easier to move an item on paper than to physically move the item if a mistake is made.

The size of a display should be proportional to the expected sales for the day. Exactly what depth and width the display should be is dependent upon

the operational requirements of the store. Department managers must determine from experience the sales needs for the day and then display accordingly.

Single or double layer displays are preferable except on peak sales days. With this type of display, freshly packaged produce can be added only when needed to fill gaps, and only a small reserve stock of packages need be kept in the backroom. Packaging should be done according to a day's needs. On peak days extra help may be brought in or transferred from other departments. Although this method requires closer supervision, it assures merchandise freshness (customer satisfaction) and helps reduce spoilage losses.

It is important to keep displays filled with fresh merchandise at all times during store hours. An inverted basket type grill makes an excellent "dummy" which permits displays to have the "full look". This grill provides a firm display foundation and allows maximum circulation of cold air at the display level in refrigerated cases. "Dummied" displays have two advantages. First, the displays have mass appeal without excessive merchandise. Second, stock rotation is facilitated and customer handling of produce is reduced, because the grill limits the amount of merchandise that can be displayed at one time.

Stock rotation in display cases is simply a matter of moving packages forward and adding new supplies in the rear. However, stock rotation on dump tables is more difficult, although equally important as in refrigerated cases. Every island dump table has a fast selling and a slow selling side. Frequently, the side facing the refrigerated produce display cases will sell

down faster than a side facing some other department. To rotate stock properly, merchandise from the slow moving side should be moved over to the opposite side. New packages can then be added to the slow selling side.

Items that are commonly displayed in non-refrigerated cases or dump bins are citrus fruits, apples, dry onions, potatoes, and melons.

Featuring products in the prepackaged display can be done by allocating additional display frontage to that product, or by building the display higher than the surrounding items in the case.

Items such as pears, apples, citrus fruits, tomatoes, grapes and peaches can be accentuated by nesting the fruit in colorful pieces of tissue paper when the tray type package is being used. Operators who prefer using trays instead of backboards can add further color to displays and dramatize feature items by utilizing different colored trays (which are now on the market).

The following rules will help guide a manager in building a "selling" display:[17]

1. Plan displays before building them
2. Follow the plan
3. Use color contrasts
4. Build neat even displays
5. Keep displays full at all times during store hours
6. Have displays filled and ready for business when the doors open

17. Produce Manual, Colonial Stores, Incorporated, Fourth Edition, 1952, p. 42.

7. Use mass display techniques
8. Display in units customers can buy
9. Offer complete variety of merchandise if at all possible
10. Change positions of displays from time to time
11. Handle price tags carefully
    a. keep tags clean
    b. all displays should be marked
    c. mark individual items whenever possible.

Pricing

Most chains regulate their retail prices through price lists made up by their produce buying and marketing staff. The chain store department manager usually has little authority to set retail prices except for markdowns or store specials. However, the department managers who have authority to establish their prices should consider the following discussion.

Converters are frequently tempted to seek premium prices for pre-packaged produce, primarily because this is the place to recognize normally hidden costs. Packaging materials add roughly two percent[18] to operating expenses in average operation. However, it is advisable to sell prepackaged produce at regular prices.

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18. Progressive Grocer, August, 1954, p. 59.

Customers resent being charged extra for packaging materials and since prepackaging generally results in a better gross margin on sales and reduced spoilage losses, there is no justification for charging premium prices for prepackaged products. Most operators find that the increase in sales both in produce and other store departments together with a lower produce labor expense and better profit control more than off-set the slight added cost of packaging materials.

Pricing should be planned to obtain a reasonable gross margin and at the same time inspire mass appeal and customer confidence.

Super Valu Stores, Minneapolis, Minnesota, are supplied with a competitive suggested retail price sheet each week on which retail prices are computed to provide an overall margin on produce sales of between 28 and 30 percent.

Set up in five commodity classifications, suggested retail prices are computed to provide the following group margins on the selling price: citrus, 28 percent; other fruits, 28 percent; bananas, 29 percent; green vegetables, 38 percent; potatoes and onions, 22 percent. Dealers with prepackaged operations who follow the suggested prices report little difficulty in maintaining an average gross margin on produce sales of 30 percent and many of them consistently run over 30 percent.[19]

To obtain maximum results from the prepackaging operation, prices must be kept competitive with the market. Faster turnover, better stock

19. Progressive Grocer, August, 1954, p. 60.

rotation, increased sales, lower labor expense, and lower spoilage losses are facilitated by efficient prepackaging and help to boost the gross margin on sales. The increased gross margin thus enables competitive pricing.

Price Marking

Price marking is an important aspect of self service merchandising; and is doubly so in prepackaged produce operations. Clean, legible price tags should be used on displays. Individual packages should be legible marked to show the price of the unit, its weight, price per pound and package date. Pricing may be done in a number of ways: by the product unit; by the package unit; and by the pound.

Legible and accurate price marking will help to speed customer traffic through the department during peak shopping periods. It will also help to create customer confidence in prepackaged produce and enable checkers to ring up produce sales as quickly as grocery sales.

The use of ink pad stamping equipment for price marking individual packages is recommended by the writer. Plastic tag markers may be used to mark basic prices of commodities on display. Specials should be featured on large lettered signs located in high visibility spots in the department to call customer attention to advertised specials.

Point-of-sale signs used in the prepackaged produce department should call attention to the sanitation, freshness and convenience features offered by prepackaging to the customer at no extra cost. Signs and posters telling the customer that produce department employees will break any package for

a desired amount and at no extra cost should lead to faster customer acceptance and preference.

In summarizing prepackaged produce merchandising, it may be stated that success with prepackaging lies not in the fact that its "in the bag" but rather that customers know that they will find fresh quality "in the bag".

The following are general merchandising pointers which can help create a healthy prepackaged produce operation.[20]

Make every item in the display attractive.

Don't mix old and new merchandise.

Price tag every item. Make tags self-explanatory.

Contrast colors of various items.

Concentrate on seasonal display items.

Take advantage of special merchandising weeks.

Make displays easily accessible to the boss, your customer.

Variety at all hours is a must. The last customer is just as important as the first.

In order to give the customer what she wants the way she wants it, the following rules appear to be a must.[21]

1. In adapting a prepackaging program, remember that the personal contact you have had under the bulk system must be continued after going into a prepackaging program.

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20. Supermarket Merchandising, May, 1955, p. 173.

21. Removing the Roadblocks to Greater Productivity, Super Market Institute, 18th Annual Convention, Cleveland, Ohio, May 1, 1955, pp. 69-70.

2. Use only high quality produce. Be sure that you offer for sale only the best, by carefully examining and grading all bulk produce received.

3. Supervise your clerks to see that no bruised or damaged produce goes into a package.

4. Give the customer a choice of two or more package sizes of various items to get the maximum dollar sale; such as selling cooking onions in a five pound package for 29 cents and a three pound bag for 19 cents displayed side by side; head lettuce in packages of two heads for 29 cents and one head for 15 cents; oranges three dozen for $1.00 and the same size orange one dozen for 35 cents. It is extremely important for every operator to use his own judgment when he starts prepackaging produce.

5. Police the department regularly to be certain that packages keep moving. The sale of fresh produce is the most profitable to the store and most satisfactory to the customer. Practice fast inventory turnover through proper buying, receiving, packaging, and pricing policies.

CHAPTER VI

SUPERVISION AND TRAINING

The success of supervision and training is directly dependent on the atmosphere of the training program and situation.[22] The atmosphere is made up, in part, of the attitudes of the key personnel administering the produce department; namely, the store manager, the department manager, and the supervisors. These men must be presold on the potential of a prepackaging operation so that they can properly administer the operation. There are several methods to create favorable attitude in supervisors and managers. One method is to use figures and data obtained from operators who have successfully converted to produce prepackaging. Favorable attitude may also be created by taking key personnel to a supermarket that is successfully prepackaging produce. Regardless of the method employed to create favorable attitude, the key personnel must have this attitude toward produce prepackaging.

Once a favorable attitude has been created, the next step is to secure full cooperation from the employees. Cooperation may be gained if the department manager has the respect of the employee. This respect may take

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22. Planty, Earl G., Training Employees and Managers, , The Ronald Press Company, New York: 1948, pp. 21-22.

two forms: respect because of the managers operational knowledge, and respect due the manager because of his ability to manage and work with people. It is not the writer's intent to outline a human relations program for department operation, however, human relations play an integral role in the conversion to prepackaging. Key produce personnel should be keenly aware of this fact, and should stress human relations as well as packaging techniques.

Department Employees

The number of employees required in a prepackaging operation will vary according to the sales demands of the store. Sales records and experimentation with the staff will help to determine the operational needs. One or two men are required to do the heavy work, such as receiving, opening, and carrying of the bulk produce. Women are much more economical and efficient in weighing, wrapping, and pricing,[23] and should be employed to perform these operations whenever possible.

The women should be informed of the working conditions and the job requirements to prevent misunderstanding and legitimate complaints. They should be told of the physical requirements of the job; such as manual dexterity and good eyesight.

Whenever possible women should be employed who have had previous experience in prepackaging departments, meat or otherwise. Training time

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23. Lapides, Op. Cit., p. 40.

can be reduced by hiring experienced help because the wrapping, weighing, and pricing operations in produce are similar to those in other packaging operations.

Training Areas for Managers

The success of the department depends primarily on management. The manager must be what his title implies. A good successful produce background will help the manager to operate the department at the level of efficiency required in a prepackaged operation. Techniques of prepackaging can be taught to the manager, but techniques of management can be best learned from a combination of training and experience.

The specific areas for manager training should be as follows:

1. Principles of management. These include work scheduling, organizing, job assignments, human relations, etc.
2. Principles of ordering.
3. Principles of receiving, checking, and inspecting.
4. Principles of display.
5. Principles of selling.
6. Principles of customer relations.
7. Principles of inventory and records keeping.

Training Areas for Employees

The department manager, in many companies, is responsible for training. He must remember that his subordinates look to him for direction

and example. Training subordinates should take place in four steps:

1. tell them why
2. show them how
3. let them learn by practice
4. put them on their own.

If these four steps are followed the employee will have more confidence in the manager and a better understanding of how and why the job is done.

The specific areas of clerk instruction are:

1. inspecting
2. washing
3. trimming
4. wrapping
5. weighing
6. price marking

Training in stocking and displaying should be given in an operation where the department manager or assistant manager does not perform these tasks. Company policy and department organization will determine the exact areas of clerk training.

All clerks should receive the same training so they can be rotated from job to job. Rotation helps to reduce fatigue, job boredom, and protects the operator from being "caught short handed" because a scale girl or wrapper is ill.

Physical Facilities for Training

The purpose and direction of the training process must be clearly explained and defined. However, in addition to these major aspects of training, the trainer or trainers must concern themselves with the numerous small problems that are related to and greatly influence training and trainee performance. Training facilities, lighting, ventilation, and maintenance of records must be established before training can be initiated.

"On-the-job" or "in-store" training offers two advantages to smaller chains and independents. First, employees are trained in the situation where they will later work. Second, the expense of establishing a training center with non-productive equipment and facilities is avoided.

The packaging room, if possible, should be air conditioned to pre-cool the produce as much as possible. Air conditioning also adds to employee comfort. A suggested temperature is 65 degrees[24]. This temperature is not too cold for the employee, and just cold enough to protect the produce from deterioration during the packaging process.

The packaging room must be well lighted. Light fixtures should be situated so that maximum illumination will be provided around the scaling and price marking areas. Proper lighting facilitates accurate scaling and price marking and tends to reduce eye strain.

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24. Lapides, Op. Cit., p. 41.

Rubber floor mats, located in areas where employees are required to stand for long periods of time, reduce employee fatigue. These mats, chairs, stools and other fatigue reducing conveniences tend to increase accuracy and efficiency and are recommended for use in the prepackaging operation, whenever possible.

Uniforms, provided and serviced by the operator, tend to increase employee satisfaction. Busley Supermarket Company reported that employees welcomed the use of these uniforms for two reasons. First, the company bears the cost of providing and servicing the uniforms. Second, the employee looks and feels more smartly dressed in the stylish and colorful uniforms than in traditional white aprons.

The packaging room should be planned in such a way as to fully utilize employee effort and movement. Application of the straight line merchandise movement reduces labor costs which is one of the most expensive costs in any operation. The straight line method dictates the merchandise be moved in the shortest possible straight line from receiving point to selling area in order to reduce materials handling and labor costs.

Training, in any operation, is a specialized and practical form of education. Basically it prepares people to do their job efficiently and accurately. Training develops the skills that make for rapid, effective work, the knowledge that makes for intelligent action, and the attitudes that bring willing cooperation with fellow employees and with management. At the same time

thorough training develops comparable skills, understanding, and attitudes in managers, enabling them to secure full cooperation from each other and from their subordinates.

CHAPTER VII

SUMMARY AND CONCLUSIONS

The writer has prepared this thesis to encourage operators of service and non-packaged produce departments to convert to self service prepackaged produce operations. It is the hope of the writer that this thesis may also serve as a basis for a produce manual for Busley Supermarket Company, Denver, Colorado.

Why Prepackage

Produce prepackaging offers many advantages to customers and supermarket operators. These advantages contribute to the mutual satisfaction of the participants in a marketing situation, the buyer and the seller. Customers enjoy the advantages of reduced shopping time, a wider selection of produce, sanitation due to wrapping, better quality, less waste, and produce freshness. Prepackaging benefits store and department operators through increased sales, profits and customer satisfaction. Packaging the produce increases shelf life, minimizes checkstand errors, facilitates inventory and quality control, and reduces labor costs.

Prepackaging Material, Supplies and Equipment

Once the decision to convert to prepackaging has been reached, the operator must determine his specific operational needs. The manufacturers of prepackaging material, supplies, and equipment offer technical assistance in determining operational needs and techniques. With the aid of this advice the operator can then begin the physical conversion of the produce department.

Merchandising Prepackaged Produce

Successful operators of prepackaged produce departments recommend that conversion should be 100 percent whenever possible. Proper merchandising includes correct introduction of the prepackaged produce. Introducing advertising should be carried in all available media.

Successful merchandising of prepackaged produce includes proper use of the following operations: ordering, receiving and checking, displaying, pricing and price marking.

Supervision and Training

Proper supervision and training are perhaps two of the most important factors contributing to the success of a prepackaged produce operation. The key personnel administering the produce department must have a favorable attitude and operational knowledge of packaging techniques. Training and the creation of a favorable attitude must be initiated at the administrative level in order to obtain proper support and supervision from the key personnel.

A favorable attitude toward prepackaged produce must also be instilled in produce department employees. These employees are responsible for the physical operation of the department and must have the knowledge and attitude necessary to "sell" prepackaged produce.

Department manager training should include principles of management and human relations as well as operating techniques.

Employee training should include all the operational techniques of packaging. A recommended method of training is presented in the following four steps:

1. Tell them why
2. Show them how
3. Let them learn by practice, under supervision
4. Put them on their own.

The establishment of a prepackaged produce department will not guarantee a more profitable operation, but it will play a most important part in achieving that end.

APPENDIX I

APPENDIX I

PREPACKAGING VEGETABLES

The purpose of this discussion is to establish a manual for packaging vegetables. Each item is listed separately and packaging details are presented. the packaging recommendations are only suggestions. Each particular operation will undoubtedly encounter situations that are peculiar to their own situation and must make adjustments accordingly.

Store Level Vegetable

Prepackaging Chart [1]

Item	Bulk Pack	Preparation	Type Package	Bag Sheet Size Tray	Type Material	Closure	Package Method	Remarks
asparagus	crate	wash trim sort	bag bag sheet tray	4 x 2 3/4 x 10 3/4 4 x 2 3/4 x 10 3/4 15 x 15 5 x 8 x 1	450 LSAT 450 LSAT 300 LSAT	heat seal heat seal heat seal	1/2#bag 1#bag 2#tray	ventilate refrigerate hold time 3-4 days

1. This chart is a compilation of packaging procedures as recommended by the following: Ezra Lapides Associates, Inc.; Film Department, E. I. du Pont Company; Sutherland Paper Company.

Item	Bulk Pack	Preparation	Type Package	Tray Bag Sheet Size	Type Material	Closure	Package Method	Remarks
Beans	hamper	sort wash	bag sheet tray	6 x 4 x 14 3/4 15 x 15 5 x 8 x 1	450 LSAT 300 LSAT	tape or heat seal	1/2# or 1# bag tray over- wrap	ventilate refriger- ate hold time 2-4 days
Beets	crate	sort trim wash	bag	6 x 4 x 14 3/4	450 LSAT	tape or heat seal	1#bag	ventilate refriger- ate hold time 4-5 days
Broccoli	crate flat	trim	bag sheet tray	4 1/2 x 3 1/4 x 13 15 x 15 5 x 8 x 1	450 LSAT 300 LSAT	tape or heat seal	variable or bunches	ventilate refriger- ate hold time 2-4 days
Brussel Sprouts	box flat	trim sort	bag sheet tray	4 x 2 3/4 x 10 3/4 15 x 15 5 x 8 x 1	450 LSAT 300 LSAT	tape or heat seal	variable or over- wrap	ventilate refriger- ate hold time 2-4 days
Carrots	crate	sort wash trim	bag	5 x 3 1/2 x 13	450 LSAT	tape or heat seal	by # or number	ventilate refriger- ate hold time indefinite
Cauli- flower	box crate	sort wash trim split flower	bag sheet tray	6 x 4 x 10 15 x 15 5 x 8 x 1	450 LSAT 300 LSAT	heat seal	1 & 2 unit bag direct wrap overwrap	ventilate refriger- ate hold time 3-5 days
Celery	crate	wash trim	bag	4 x 2 3/4 x 18	450 LSAT	tape heat seal	1 & 2 unit bag	ventilate refriger- ate hold time 3-5 days

Item	Bulk Pack	Preparation	Type Package	Bag Sheet Size Tray	Type Material	Closure	Package Method	Remarks
Corn	crate bag	trim sort	bag sheet tray	6 x 4 x 14 3/4 15 x 15 5 x 8 x 1	450 LSAT 300 LSAT	tape or heat seal	unit bag direct wrap overwrap	ventilate refriger- ate hold time 3-5 days
Endive	box	wash trim sort	sheet sheet bag	15 x 15 18 x 18 5 1/4 x 7 x 13	300 LSAT 300 LSAT 450 LSAT	heat seal heat seal heat seal	overwrap direct wrap variable	ventilate refriger- ate hold time 3-5 days
Greens	box	sort wash trim	bag sheet sheet	5 1/4 x 3 x 13 15 x 15 18 x 18	450 LSAT 300 LSAT 300 LSAT	heat seal heat seal heat seal	direct wrap variable	ventilate refriger- ate hold time 3-4 days
Eggplant	box	sort wash trim	bag	varied	450 LSAT	heat seal	1 unit bag	ventilate refriger- ate hold time 2-4 days
Lettuce, head leaf	box	sort trim wash	bag sheet	varied	300 LSAT 300 LSAT	heat seal heat seal	1 unit bag 1&2 unit bag	refriger- ate ventilate hold time 2-3 hours
Dry Onions	bag	sort	bag	5 x 2 x 13 5 x 3 1/2 x 13	450 LSAT 450 LSAT	tape tape	3# bag 5# bag	ventilate hold time indefinite
Green Onions	box crate	sort wash trim	bag	4 x 2 3/4 x 18	450 LSAT	heat seal	variable	ventilate refriger- ate hold time 2-3 days

Item	Bulk Pack	Preparation	Type Package	Bag Sheet Size Tray	Type Material	Closure	Package Method	Remarks
Parsnips	box crate	wash trim	bag	4 x 2 x 10 3/4 4 x 2 x 10 3/4	450 LSAT 150 poly.	heat seal heat seal	2#bag 4#bag	ventilate refriger-ate hold time 3-5 days
Peas	box	sort wash trim	bag bag	3 1/2 x 2 1/4 x 9 3/4 4 x 2 3/4 x 10 3/4	450 LSAT 450 LSAT	heat seal heat seal	1#bag 2#bag	ventilate refriger-ate hold time 3-4 days
Peppers	bushel	sort wash	bag sheet tray	2 1/2 x 2 1/4 x 9 3/4 4 x 2 3/4 x 10 3/4 12 x 12 15 x 15 5 x 5 x 1 8 x 8 x 1	450 LSAT 300 LSAT	heat seal heat seal	unit bag variable unit overwrap	ventilate refriger-ate hold time 2-4 days
Potatoes white new red	bag	sort	bag bag bag	4 x 3 x 12 6 x 3 1/2 x 15 8 x 3 1/2 x 19	150 poly. 150 poly. 150 poly. 200 poly.	tape or heat seal	2#bag 5#bag	ventilate hold time indefinite
Yams Sweet Potatoes	bushel crate	sort	bag bag bag	4 x 3 x 12 5 x 3 1/2 x 13 6 x 3 1/2 x 15	150 poly. 150 poly. 200 poly.	tape or heat seal	2#bag 3#bag 5#bag	ventilate hold time indefinite
Radish (recommend packer radish)	bushel	sort wash	bag	3 1/2 x 2 1/4 x 9 3/4	450 LSAT	tape or heat seal	8 oz. bag	ventilate hold time indefinite
Squash Winter Squash	bushel	sort wash	bag sheet	4 x 2 3/4 x 10 3/4	450 LSAT 300 LSAT	heat seal heat seal	1#bag individual or piece	ventilate hold time indefinite
Tomatoes	box flat	sort wash	bag sheet tray	4 x 2 x 10 3/4 12 x 12 15 x 15 5 x 5 x 1 8 x 5 x 1	450 LSAT 300 LSAT	heat seal heat seal	3&4 unit bag 3&4 unit tray overwrap	ventilate refriger-ate hold time 3-4 days

Item	Bulk Pack	Preparation	Type Package	Bag Sheet Size Tray	Type Material	Closure	Package Method	Remarks
Turnips	crate	sort wash trim	bag	4½ x 10¾	450 LSAT	tape	1#bag	ventilate refrigerate hold time indefinite

In general, vegetable packaging can be accomplished with a minimum of waste through careful selection, washing, and trimming of the vegetables. The best criteria for quality is good judgment. Care must also be exercised in the wrapping or bagging of items which may be easily crushed. Careful handling during the packaging operation will minimize waste, both in rewrapping and eventual discardage.

As a guide to the vegetable packing manual the following are three basic wrapping method, with steps explained.

Direct Wrap:

1. Excess and damaged parts are removed.
2. Stem is placed cater-cornered on film sheet with water-proof label in position. The corner of the sheet is folded over the product.
3. Wrap is completed by folling and at the same time folding ends.
4. Seal is made with hand iron, or with pressure sensitive tape.

Bag :

1. Produce is sorted and graded.
2. Bag is loaded with aid of funnel.

3. Pack is adjusted to proper weight (or pack may be catch weighed after bag is closed and price adjusted to weight).

4. Saddle label is stapled to bag top.

Tray Overwrap:

1. Label is applied to film with hand iron.

2. Film is placed over tray cater-cornered.

3. Two opposite corners of film sheet are tucked under tray and sealed over hot plate or with hand iron.

4. Remaining two corners are tucked under and sealed.

APPENDIX II

APPENDIX II

PREPACKAGING FRUITS

Prepackaging of fruits can make the produce department the jewel of the supermarket. Fruits provide the smart operator the opportunity to achieve profitable sales, above and beyond the industry sales level. For, it is in this group of items that the manager has the opportunity to use his imagination - his creativeness. The possible designs, varieties, and color schemes are numerous. Creativity can mean more and greater impulse sales. But, it is up to the operator or department manager to use his imagination in creating impulse sales through these mixed colors, varieties and designs.

Customer acceptance is the key to profitable operation. Regardless of the operator's personal preference or bias he must be guided by what Mr. and Mrs. Consumer want. In order to aid customer acceptance, the operator might do well to standardize his packages for the following reasons. First, the consumer can more easily recognize the quality she has purchased before. After quality has been established, customer recognition plays the primary role in consumer acceptance. Secondly, standardization is necessary in the packaging operation if greatest economy is to be achieved.

In this section the same approach as was presented in the vegetable discussion is used. Packaging and handling are described for each item on an individual basis.

Store Level Fruit Prepackaging Chart[2]

Item	Bulk Pack	Preparation	Type Package	Bag Sheet Size Tray	Type Material	Closure	Package Method	Remarks
Delicious Apples	100's 200's	sort polish	bag sheet tray	4½ x 3¼ x 13 12 x 12 15 x 15 8 x 5 x 1	450 LSAT 300 LSAT	tape heat seal	3's or 4's 4's or 6's	ventilate hold time one week
Apples (cooking)	125's bushel	sort polish	bag	6 x 3½ x 13	450 LSAT	tape	3# & 5#	ventilate hold time one week
Apricots	lug 6, 7 row	sort	tray tray sheet sheet	8 x 3½ x 1 5 x 5 x 1 12 x 12 15 x 15	 300 LSAT 300 LSAT	 heat seal heat seal	6-8's 9-11's	ventilate refrigerate* hold time 1-2 days
Avacados	lug	sort polish	tray sheet	5 x 3 x 1 10 x 10 12 x 12	300 LSAT	heat seal	2's	ventilate refrigerate* hold time 1-2 days
Berries	pints quarts	sort repack	sheet sheet	14 x 14 16 x 16	300 LSAT 300 LSAT	heat seal or rubber band	pints quarts	ventilate refrigerate* hold time 2 days
Cherries	lug	sort	bag sheet tray	3½ x 2¼ x 9¾ 9 x 9 12 x 12 5 x 8 x 1	450 MSAT 300 MSAT	heat seal heat seal	pints quarts	ventilate refrigerate* hold time 2 days

2. This chart is a compilation of packaging procedures as recommended by the following: Ezra Lapides Associates, Inc.; Film Department, E. I. du Pont Company; Sutherland Paper Company.

* Refrigeration preferable but not necessary.

Item	Bulk Pack	Preparation	Type Package	Bag Sheet Size Tray	Type Material	Closure	Package Method	Remarks
Cran-berries	lug pints quarts	sort repack repack	bag sheet sheet	3½ x 2 1/16 x 9¾ 14 x 14 14 x 14	450 LSAT 300 LSAT 300 LSAT	heat seal heat seal rubber bands	1#-2# bag pints quarts	ventilate hold time indefinite
Fresh Dates	lug	sort	bag sheet tray	3½ x 2¼ x 9¾ 10 x 10 5 x 8 x 1	450 LSAT 300 LSAT	heat seal heat seal		refriger-ate* hold time 3-5 days
Figs	lug	sort	bag sheet tray	3½ x 2¼ x 9¾ 12 x 12 15 x 15 5 x 8 x 1	450 LSAT 300 LSAT	heat seal heat seal	1#-2# bag 1#-2# tray	refriger-ate hold time 3 days
Grape-fruit	case 96's to 46's	sort	bag	5 x 3½ x 13 6 x 3½ x 13 8 x 3 x 19	450 LSAT 450 LSAT 450 LSAT	tape tape tape	3's 6's 12's	perforate refriger-ate* hold time indefinite
Grapes	lug	sort trim	sheet tray	15 x 15 5 x 8 x 1	300 LSAT	heat seal	catch weight	perforate refriger-ate hold time 2-3 days
Lemons	case 49's to 300's	sort	bag sheet tray	4 x 2 x 9 1/2 5 x 3 1/2 x 13 12 x 12 5 x 3 x 1 8 x 3½ x 1	450 LSAT 300 LSAT	heat seal heat seal	6's 12's 2's 4's	perforate refriger-ate* hold time 3-4 days
Limes	lug	sort	bag sheet tray	4 x 2 x 9 1/2 5 x 3½ x 13 12 x 12 5 x 3 x 1	450 LSAT 300 LSAT	heatseal heat seal	6's 12's 2's 4's	perforate refriger-ate* hold time 4-7 days

* Refrigeration desirable but not necessary

Item	Bulk Pack	Preparation	Type Package	Bag Sheet Size Tray	Type Material	Closure	Package Method	Remarks
Oranges	case	sort	bag	8 x 3 x 19	450 LSAT	heat seal	5#bag	refriger-ate*
	150-176		bag	8 x 3 x 9	450 LSAT	tape	12#bag	ventilate
	200-220		bag	7 x 3 x 19	450 LSAT	tape	1 doz. bag	hold time 4-7 days
	250-288		bag	8 x 3 x 19	450 LSAT	tape	1 doz. bag	
	176's		bag	6 x 3 1/2 x 17	450 LSAT	tape	1 doz. bag	
	200-220's		bag	6 x 3 1/2 x 15	450 LSAT	tape	1 doz. bag	
	250's		bag	5 x 3 1/2 x 13	450 LSAT	tape	1 doz. bag	
Peaches	box	sort	bag	4 x 2 x 9 1/2	450 LSAT	heat seal	variable	refriger-ate*
	bushel		tray	8 x 5 1/2 x 1			6 fruit	
			film	14 x 14	300 LSAT	heat seal		ventilate
			tray	10 x 5 x 1			8-10	hold time
			film	16 x 16	300 LSAT	heat seal	fruit	2 days
Pears	box	sort	sheet	14 x 14	300 LSAT	heat seal	4-6 fruit	ventilate
	165's to 100's		tray	8 x 5 1/2 x 1				refriger-ate*
			sheet	16 x 16	300 LSAT	heat seal	4-9 fruit	hold time
			tray	10 x 5 x 1				2-3 days
			sheet	12 x 12	300 LSAT	heat seal	6-12 fruit	
			tray	5 x 5 x 1				
Plums	lug	sort	sheet	12 x 12	300 LSAT	heat seal	4-6 fruit	ventilate
	5x5's		tray	5 x 5 x 1				refriger-ate*
	4x5's		sheet	14 x 14	300 LSAT	heat seal	4-9 fruit	
	4x4's		tray	8 x 5 1/2 x 1				hold time
			sheet	16 x 16	300 LSAT	heat seal	6-12 fruit	3-4 days
			tray	10 x 5 x 1				
Rhubarb	box	sort	bag	4 x 2 3/4 x 10 3/4	450 LSAT	tape	1/2#bag	ventilate
		trim	bag	4 x 2 3/4 x 18	450 LSAT	or	1#bag	refriger-ate*
		wash	bag	4 x 2 3/4 x 18	450 LSAT	heat seal	2#bag	
								hold time 3-4 days

* Refrigeration preferable but not necessary

Item	Bulk Pack	Preparation	Type Package	Bag Sheet Size Tray	Type Material	Closure	Package Method	Remarks
Tangerines	crate	sort	bag bag sheet tray sheet tray	5 x 3½ x 13 6 x 4 x 18 14 x 14 8 x 5½ x 1 16 x 16 10 x 5 x 1	450 LSAT 450 LSAT 300 LSAT 300 LSAT 	tape or heat seal	12's 24's 6-8 fruit 8-10 fruit	ventilate refrigerate* hold time 3-5 days
Watermelon	bulk or loose pack	cut 1/2 & 1/4 whole	sheet	10 x 15	300 LSAT			variable

* Refrigeration preferable but not necessary

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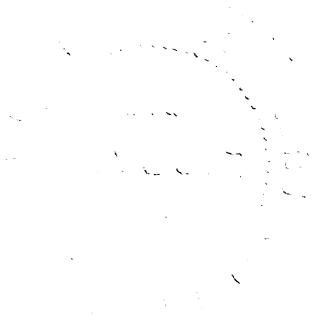

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