

Packaging Meat for Lockers

wrapping time cut 42% in pilot time-and-motion study of practices of frozen food locker operators

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The following report is based upon a survey undertaken at the request of Division of Food Technology, University of California College of Agriculture.

The composite effect of the use of pre-cut paper and a two-handed wrapping method reduced the time for the meat wrapping operation in a pilot food locker plant by 42%.

Use of pre-cut paper held in fixtures on the wrapping table reduced by 71% the time required for getting paper and placing it in position for wrapping.

The use of a two-handed wrapping and taping system reduced the time required to wrap and tape by 31%.

Two methods of identifying packages were found to be promising. One method consists of a printing attachment on the gummed paper tape dispenser which can print on the tape such information as locker number, date, type of meat, etc. The other method incorporates into the forms used in the clerical system, a small stencil which can be used to stamp each package with the required information.

Pilot Study

The pilot study was restricted to meat wrapping and packaging operations because economic investigations have indicated that losses occur in processing operations commonly used in locker plants. Also, processing is growing in volume—compared with locker rentals—as the locker plant is becoming a merchandiser of foods that are to be stored in home freezers.

The pilot study was directed toward the development of packaging methods that could immediately benefit the frozen food locker operator who uses currently accepted materials. Methods of work only were studied. Complete recommendations can not be made until the interaction of types of materials and methods of packaging can be investigated.

Layout

In the methods developed in the pilot plant, the principles followed in designing the workplace layout were those which reduce to a minimum the need for bending and turning on the part of the operator.

The layout was designed for one operator who could both wrap and identify packages. A work table 37" to 39" in

height with an adjustable chair will permit the operator to sit or stand at his own discretion during work. A simple fixture consisting of a plywood bottom and four corner guides contains a supply of pre-cut outer-wrap paper and is placed on the work table directly in front of the operator. The fixture holds the pre-cut paper in place during wrapping and fans the forward edge for easy grasping. Behind and slightly above this fixture is a similar one—set at an incline—which contains a supply of pre-cut inner-wrap material. Above these holders are rolls of wider outer-wrap and inner-wrap materials to be used on the larger cuts of meat. A wire tray-basket of cut meat is to the right of the wrapping place on the table. To the left of the operator are the tape dispenser and a rack of clips holding the rubber identifying stamps.

The pre-cut wrapping paper used in the test was intended for beef and consisted of 18" x 18" outer-wrap and a 15" x 15" inner-wrap material. For the larger cuts of meat the operator would tear pieces of adequate size from the large-width rolls provided on the workplace. For lamb and pork, smaller sizes of pre-cut paper may be adequate. The individual locker plant manager may experiment to determine the sizes most suited for his needs.

Wrapping Method

The method of wrapping the meat provides for a balance of work between the

right and left hands with both hands functioning effectively. The operator grasps a cut of meat with the right hand and a piece of pre-cut inner-wrap with the left hand. The inner-wrap is pulled forward from its holder to lie on the pile of pre-cut outer-wrap and the meat is placed on the inner-wrap. Both hands are used to fold the inner-wrap around the meat, and then the outer-wrap around the inner-wrap using the drugstore—square corner—type of wrap. Each hand makes up a flap and tucks it under the package simultaneously. One hand dispenses the tape which is grasped by the other and both hands place the tape over the fold and around the flaps pulling them tightly to the package.

A long piece of tape, encircling most of the package, can be applied in less time than two smaller pieces and creates a sturdier, more leak-proof wrap.

An easily installed recommendation that will improve performance is to have the butcher and packager agree as to specific locations in the meat basket for different cuts. By placing the cuts in the same location in every basket, wrapping can take place in a given sequence with a minimum of searching.

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Recommended workplace layout. The wire basket of cut meat is to the right, the tape dispenser to the left, the wrapping papers in front of the operator.

The package at the end of wrapping, with flaps tucked under, showing both hands beginning to place tape. Note pre-cut outer-wrap in front of operator and pre-cut inner-wrap behind and above it. Rolls of larger-width wrap are on rollers above the pre-cut wraps.

