A DEMONSTRATION PROJECT OF DEVELOPING FOOD DISTRIBUTION FACILITIES IN NORTHERN NEW MEXICO

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Retail food markets in isolated areas of the West are finding it difficult to make a reasonable profit on their operations, and still provide minimum services for their customers. A few of the problems facing retailers are:

1. Isolation - Extremely long distances separate the retail markets in much of New Mexico, making them costly for wholesale servicing.

2. Only a limited number of wholesalers and purveyors are interested in serving many of the areas.

3. Low volume operations are typical. A part of this is because of small populations in many of the communities.

4. Competent, well-trained personnel are difficult to find and more difficult to retain.

5. The managerial ability of store operators is low. Store managers, typically have usually "grown up" in the business, with little or no training and have very limited access to technical information taken for granted by their big city cousins.

Some of the problems facing consumers in isolated communities are:

1. A very limited selection of food necessities. Often fresh meats and fresh produce are unavailable in the community.

2. Long distances to travel to visit competing markets.

3. Low incomes - Many communities have 80 percent of their families with incomes under $4,000 annually.

4. Higher food prices than those found in city markets.

5. A low level of sophistication in food buying practices. Consumers in isolated areas have a limited understanding of labels, grading, nutritional requirements of their families and nutritional content of foods, and have a general lack of ability to stretch the available food dollar through wise buying practices.

Our Extension Service has recognized for some time the need for increased program emphasis in the area of technical assistance to food retailers. Budget restrictions precluded an intensive program until a year ago when a small grant was received from the Four Corners Regional Commission for the purpose of implementing a pilot demonstration project in Northern New Mexico. With the assistance of Lewis Norwood, E.S., U.S.D.A., demonstrations were planned and a program is now under way.

Objectives of the Demonstration Project are:

1. To bring to small retailers an educational program supported by the vast amounts of operational know-how developed by industry, universities, and the United States Department of Agriculture.

2. To help the retailer expand his operation with greater returns on his investment and labor.

3. To help bring a greater choice of foods to shoppers that they may improve purchases for the nutritional needs of their families.

Now, nearly a year after the start of the project, the following has been accomplished:

1. Established demonstrations in three markets. One a full service general store in an isolated Spanish-American mountain community; another a convenience operation in a small community with recreational potential and community access to larger markets in a community only 12 miles away, and lastly a trading post in the heart of the Navajo nation, many miles from alternative sources of a complete grocery selection.

2. An intensive personal interview survey of 118 families in one of the demonstration areas.

3. Development of new floor plans for two of the demonstration markets, based in part on the above survey and studies of traffic flow patterns and shifts in the merchandising objectives of the business.

4. Consultation with management of the demonstration markets on their management practices.

Much additional work remains to be done. Plans have been made to intensify our work with the cooperating markets. They will be utilized in seminar sessions held for management of the many other retail food markets of the northern part of the state. Hopefully, educational materials will be developed, and an on-going program of educational assistance for the many small food retailers of the state will be implemented.

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COMPARATIVE METHODS OF HANDLING PRODUCE FROM WAREHOUSE SLOTS TO STORE HOLDING AREAS

by
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The study of alternative systems of handling produce from warehouse selection to storage in the retail store showed that the pallet system was the least expensive, costing $103.75 per 1,000 cases delivered, compared to $113.40 for mobile cart shipment and $140.71 when produce is hand stacked in the trailer, Table 1. The study further showed that the availability of backhaul revenue further reduced the cost of pallet and hand stack shipment in the cooperating firms. The total cost per 1,000 cases, with backhaul, was $93.38 for pallets and $130.95 for hand stack delivery. There was no backhaul for cart shipments because the rigid cards used all available space in the trailer. Collapsible carts will free approximately 75 percent of trailer space for backhaul freight but the potential revenue should be adjusted for the added cost of the cart and the labor to erect and collapse the cart.

Warehouse labor for selection was $4.58 per 1,000 cases less for the pallet system than the cart system. This was due to the greater capacity of the pallet and the lower time to select and position the

Table 1

Summary of total warehouse and retail store costs per 1,000 cases

Item	System		
	Pallet	Hand Stack	Cart
	Dollars	Dollars	Dollars
Warehouse labor:			
Selection	21.90	22.88	26.48
Restocking	3.30	3.30	3.30
Loading	2.77	11.65	4.75
Retail store receiving	18.88	37.80	10.80
Delivery	49.43	59.89	51.48
Equipment, dock ownership and structural alterations	7.47	5.19	16.59
Gross cost	103.75	140.71	113.40
Backhaul revenue	10.37	9.76	-
Net cost	93.38	130.95	113.40

case on the pallet.

The loading of pallets on delivery trailers required $1.98 less labor per 1,000 cases with pallets than carts, and $8.88 less than hand stack. Pallets were the least expensive because: 1) the pallet had a larger capacity, therefore fewer trips into the trailers were necessary, 2) the selectors loaded the pallets, eliminating parking on the dock, and 3) less time was needed to remove empty pallets from the trailer. Hand stack was the most costly loading method because all cases were manually positioned in the trailer.

Retail labor costs for unloading full carts, moving them to storage and for loading empty carts back on the trailer were $8.08 per 1,000 cases less than for pallets. This is based on half of the stores having truck bed level docks, and half using trailer elevators for carts and hydraulic lift platforms or a walkie-stacker lift fork for pallets. The lowest cost receiving method was carts over a dock ($8.46 per 1,000 cases). Any potential advantage of hand stack delivery (notably large trailer loads) was cancelled by the high labor costs of unloading ($37.80 per 1,000 cases).

Delivery costs were approximately the same for all produce handling systems, with pallets having a slight advantage -- $49.43 per 1,000 cases, compared to $51.48 for carts. Delivery costs were effected by trailer capacity, time to load and unload, and backhaul revenue. The backhaul revenue of the pallet firms studied

reduced delivery costs to $39.06 per 1,000 cases - $12.42 per 1,000 cases less than cart delivery costs.

The cost of equipment, dock ownership and structural alterations was $9.12 per 1,000 cases more for carts than the pallet system. This was due almost entirely to the cost of the mobile carts. The hand stack system was the least expensive ($5.19 per 1,000 cases) because little equipment and modification was needed at the store level.

Studies were made of two types of selection systems: the long selection line where all produce items were slotted and the selectors route covered all slotted areas, and the short selection route where produce was removed from storage and temporarily staged in a selection line near the shipping dock. The cost of restocking and selection was $12.40 per 1,000 cases higher for the short selection line. The higher cost of the short selection line was due to labor to set up the line and to return to storage the merchandise not selected.

The size of the produce order has an effect on selection productivity. In one firm which had store orders ranging from 5 to 200 cases, the labor cost of selection varied from $31.05 per 1,000 cases for orders of 10 cases or less, to $16.40 for orders with over 75 cases. The greater time for the smaller orders was due to the increased travel time, to and from the dock, and between case selections.

The question of whether to ship produce with the grocery order in a combination load or to serve several stores with a multistore (shuttle) run, does not occur for metropolitan stores or those far from the warehouse and isolated from other stores. The former should be shuttle runs and the latter combination loads. When out-of-town stores can be grouped to form logical delivery routes then the key factors are total mileage per week to serve the stores and the frequency of delivery for produce and grocery for each store. When stores were grouped in a triangular or a straight line route the combination load was the lowest cost system. Average savings were 15 percent. Costs were identical for supplying a group of stores in a satellite city. As the ratio of produce to grocery deliveries increases, produce shuttle runs become the lower cost system. The firm should make certain that any delivery savings resulting from combination loads not be at the expense of loss in produce quality when the trailer does not have proper temperature control for each commodity.

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