NEWER TRENDS IN EXPORT AND DOMESTIC SHIPMENT
OF GRAPEFRUIT

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Newer methods are constantly being applied to the handling of fresh fruit in an effort to reduce the cost and get a better product to the consumer. Some of these methods spread quickly throughout the fresh fruit packers and shippers while others are not so appealing and thus remain unexploited on laboratory or industry shelves.

Bulk handling of citrus fruit from grove to packer and/or processor was developed in recent years and now is a common practice throughout our industry. More recently it has projected itself into the marketing channels beyond the packinghouse. The value of pallet bins, large containers holding 10-15 field boxes, for bulk handling, has been a little slower to be recognized, but may eventually be utilized.

Many distributors in the market outlets have established their own methods of packaging and merchandising produce and fruit. This generally involves the movement of fruit in bulk from the producing area to the consuming area. At this point the fruit are packed for the retail market. One method of bulk movement new to the citrus industry is commonly called "piggy-back". It consists of transporting loaded refrigerated semitrailers via rail flatcars. In this operation fruit may be loaded in bulk or in boxes at the point of origin into the trailer, moved by tractor to the rail loading platform where it is entrained for rapid transit to northern markets. Upon arrival it can be quickly removed from the rail car and delivered to the packer. Here it is packed in polyethylene bags or other containers depending on the market at the time.

It is apparent that with this type of operation the citrus industry loses contact with the fruit early and can have very little control over the quality. An example of improper handling when the buyer is in control of the packaging was observed by the writers in New York this past season. Grapefruit were often seen packaged in polyethylene bags with no holes or few holes with high incidence of mold. Fruit packed in Florida must adhere to the rules of the Florida citrus code which requires that polyethylene bags must have a minimum of 72 holes.

The movement of fruit by bulk handling methods as discussed above can be handled or controlled by one of two sets of ideologies. One is that the fruit should remain in the grower-packer-shipper control for a sufficient time to see that proven handling and packing methods are followed. Thus the citrus industry can execute all possible care in presenting a better quality product to the consumer.

On the other hand, the Florida citrus industry may eventually have no control over the handling and packaging of fruit by selling bulk to distributors. Uninformed or unprincipled distributors could cause serious quality defects on citrus quality. If the buyer is genuinely interested in the preservation of quality of the fruit and well informed, little else can be desired. We believe that integrated marketing arrangements must be considered seriously to ascertain if our fresh fruit are going to be handled in a satisfactory manner to maintain proper fruit quality for the buying public. The condition of any of our fruit, until it is consumed, is a reflection of all fresh Florida citrus.

Other means of transportation are being considered by other produce and fruit handling industries. Early strawberries and other soft fruits are being carried "birdy-back" which is by air to markets. This provides a means of getting a highly perishable commodity to the...
market in a minimum time, enabling them to present a high quality product to the buyer or consumer. Even lettuce has been shipped by air on a space available basis. Although this means of transportation may not be considered by our industry, the air freight companies are evidently making it enticing to some of the other fruit and produce industries. Gift fruit shippers might be more likely to use such transportation than would shippers of the bulk of our crops.

The movement of materials overseas in ships has not been overlooked in new methods and terminology. “Fishy-back” is now in use for the movement of trucks and bulk boxes of commodities. This is not to be confused with older method used in this State of loading complete rail cars aboard ships for overseas transit. Although similar in nature this newer method provides more versatility in the handling and type of transportation utilized. California exporters have been using this means for some time, and other countries are trying it. Bulk boxes of apples have been shipped from New Zealand into Great Britain with success as well as oranges from Morocco.

New trends in transportation require new containers. These containers may vary from the size of a trailer truck body to much smaller containers that can be loaded individually on flatcars or truck chassis. These compartments could be delivered directly to the user of the materials.

All of these methods result in the reduction in labor of handling and rehandling. Other advantages appear in lack of pilferage, less damage, and speed in the over-all operation. The disadvantages appear to be requirements for heavy equipment to transfer some type of containers, and unavailability of the types of containers that are needed. Each industry will have its own demands for size but a need for standardization is evident. With containers, regardless of size, there is a problem of ownership and the returning of the containers after being delivered full (1).

Last spring we observed an experimental bulk shipment of grapefruit in disposable cardboard bulk boxes. The cardboard boxes were 4' x 4' x 3' and held approximately 20 field boxes of grapefruit. These boxes proved to be too large and too fragile for the treatment they received in overseas shipment. The size probably intensified the damage that occurred to the car-tons and cartons were too tall. Fruit near the bottom were crushed and misshapen. Even though some fruit were damaged, the loss was comparable to that shipped in one-half Bruce boxes. This development still has possibilities of providing a disposable container for bulk shipment of grapefruit to overseas markets.

Other countries, Palestine, Israel and South Africa have shipped grapefruit from grove to market without the refinements that we give our fruit. The fruit may or may not be yellow when packed but without an application of wax the fruit becomes yellow in transit. We are at the present time investigating the feasibility of this method of handling grapefruit for the European markets.

Work at the Citrus Experiment Station during the past several years on degreening studies in refrigerated rooms without ethylene indicate that at 60° F. even the greenest citrus fruit if otherwise mature can lose its green color in three to four weeks (2). Grapefruit that have broken color will take even less time to degreen to an acceptable color. However, waxing will retard the rate of degreening.

Ventilated ships traveling from Tampa to Germany take approximately 2 to 3 weeks to make the trip. The temperature in the holds of the ship should approximate the temperature necessary for a good degreening rate. Therefore, it is proposed that early green-colored grapefruit could be packed as they arrive from the groves, without subjecting them to the rigors of the ethylene degreening rooms. The transit time to Europe would be sufficient for these fruit to arrive with an acceptable market color.

In summary it should be emphasized that suggestions on better grapefruit handling methods are welcomed from all sources and require the cooperation of all people concerned if they are to be successfully carried out.

**LITERATURE CITED**
