



INSTITUTE OF FOOD AND  
AGRICULTURAL SCIENCES  
UNIVERSITY OF FLORIDA

FLORIDA  
COOPERATIVE  
EXTENSION SERVICE

## PACKINGHOUSE NEWSLETTER

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Key Word Index Decay Control, Export, Fresh Fruit Shipments, Fungicide Regulations, Japan, Pallets, Peel Injury, SOPP, Waxing

### FRUIT RETAILING IN JAPAN<sup>1</sup>

#### Quality Fruit Stores

The most characteristic feature in fruit retailing in Japan is the quality fruit store which sells only fruit. In the highest class shopping area of a large city, for example, the Ginza District in Tokyo, there are fruit stores in which fruit is sold on a large scale at very high prices. Also, every department store has a counter for fruit retailing. It is quite common for a single apple or grapefruit to sell for 500 to 1,000 yen (\$1.75 to \$3.50 U.S.) in this type of store.

At the present time, the most expensive land in Japan (estimated price: 4,600,000 yen/m<sup>2</sup> \$1,500 per square foot) is considered to be in front of the Shinjuku Station in Tokyo. A fruit store named Takano is located in this area. It was founded in 1885, and is one of the oldest fruit stores in Japan. First, it handled silk and fruit, but soon it specialized in the sale of various fruits. Later it provided a room where customers could eat fresh fruit and fruit cakes. Such a room was called a "fruit parlor." This term has gained general usage in the Japanese vocabulary. The main Takano building has 9 stories aboveground and 4 stories underground. There are fruit parlors, restaurants, and counters of general foods, ladies' dresses and accessories, in addition to the fresh fruit. Also, Takano has many fruit counters in department stores and railway terminal buildings.

There are approximately 6,000 quality fruit stores in Japan. About 20% of the total fruit retailed in Japan is sold through this type of store. Some of them have fruit parlors and other facilities similar to Takano's. Quality fruit stores need well trained employees who buy high quality fruit at the wholesale market and sell it to consumers with information about the fruit.

Approximately 70% of the fruit is sold through green groceries (stores specializing in produce only), and neighborhood markets, and 10% through supermarkets. In such stores, the fruit are less fancy and are sold at fairly reasonable prices.

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<sup>1</sup>Condensed from a talk given at the International Society of Citriculture meeting in Orlando, May, 1977. The Proceedings of this meeting, comprising over 300 talks and scientific meetings, are being prepared for publication. As each of the three volumes become available, it will be announced in our "Available Publications" section.

• Editor

Fruit for Japanese

Many fruit such as mandarins, Japanese pears, kaki (Oriental persimmons), grapes, peaches and loquats have been cultivated for centuries in Japan. Formerly, they were mostly consumed by the grower's family with only very small quantities going to market. Commercial production of fruit started after Meiji Restoration (1868). The government introduced apples, cherries, and other fruits, and encouraged farmers to produce fruit for sale.

In the early days of the 20th century, fruit was purchased by a few wealthy people and generally considered as an ornament or gift like flowers rather than as food. This concept still exists in Japan. You will see many fruit baskets beautifully decorated with various kinds of fruit at ceremonies such as funerals. Also, it is quite common to send fruit as gifts to special friends and to sick people. For that purpose, *the fruit should be excellent in external appearance.* This is one reason why size, color, and general appearance are so important to the quality fruit trade in Japan. For such fruit, the custom persists that Japanese buy disproportionately expensive fruit as compared with their incomes.

In recent years, fruit have come to be primarily consumed as a food. Current fruit consumption is about 70 kg (155 lbs) per person per annum. The amount of fresh fruit purchased increased 1.6 times, and money expended for fruit has increased 3.2 times during the last 10 years. Japanese, however, distinguish fruit from other foods. To the Japanese, eating fruit is a special pleasure or luxury similar to the use of alcoholic drinks. It is quite common for one family to divide one apple after dinner, peeling and cutting the fruit. For that purpose, the apple should be large and good in appearance in addition to the taste. Quality fruit stores exist to provide fruit for these consumers.

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FEDERAL REGISTER ITEMS

The 398-page Federal Register of March 15, 1977 carried a "Reorganization and Republication" of existing food regulations, presumably without substantive changes from existing regulations. A number of items that might be of interest to a few specialized readers of this Newsletter (ingredients for waxes, etc.) are listed under "Available Publications." We will send single copies free of charge to those requesting them.

W. Grierson  
AREC, Lake Alfred

SOPP CAUTION

A recent Department of Citrus Rule requires that all citrus fruit for export to Japan must be treated with sodium o-phenylphenate (SOPP). The minimum SOPP residue requirement of 0.5 ppm must also be met. Consequently some packers have added SOPP in different formulations. SOPP applied in water or soap must be rinsed off the fruit 2 or 3 minutes after application. A complete rinse is necessary to avoid peel injury. Formulations containing hexamine are safer but a thorough rinsing is still necessary. If hexamine is not in the formulation, it is especially important that the pH be maintained between 11.5 and 12.

Extension Circular 359-A, Postharvest Decay Control Recommendations for Florida Citrus fruit (see Available Publications) has instructions for using this fungistat.

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Eldon Brown  
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PALLET STRENGTH COMPUTATION  
A SIMPLIFIED PROCEDURE

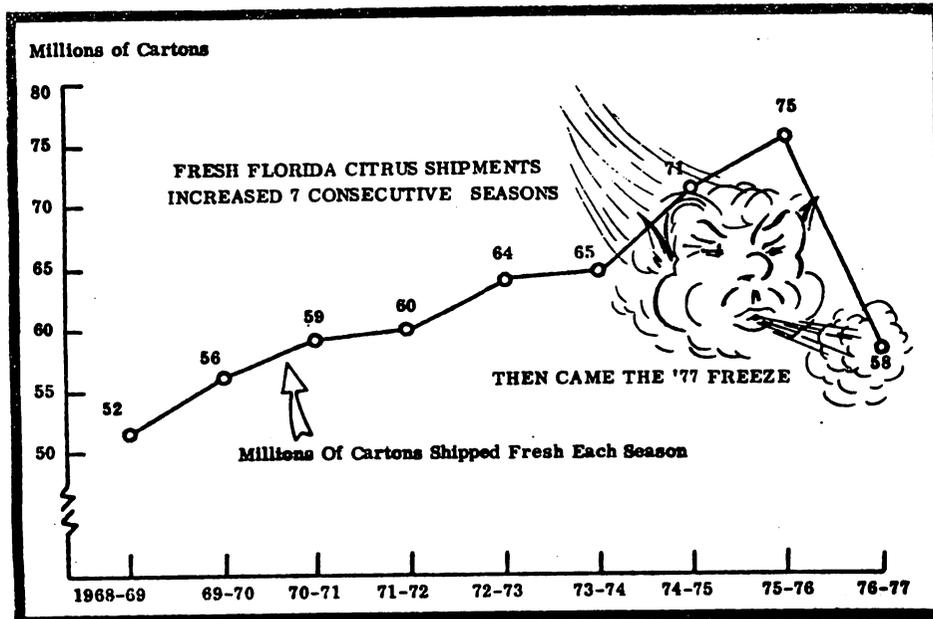
Synopsis. Pallet manufacturers are continually faced with the problem of providing a product which is strong enough to perform the job, which is safe to use, and which is low in cost. This problem can be resolved best if the pallets are constructed in accordance with standard engineering principles which have been adopted for nearly all other types of wood structures.

This paper attempts to reduce rather complex design calculations to a series of tabulated values which may be multiplied. If desired, identical computations can be performed without reference to the tables. However, a series of alternatives can be examined more quickly and more accurately by using the tables to select the best combination of dimensions and materials to meet predetermined load and deflection requirements.

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Walter B. Wallin  
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(See Available Publications)

FRESH FRUIT TREND INTERRUPTED

This graph illustrates the effect of the January 1977 freeze on fresh citrus shipments from Florida. The illustration is borrowed from the cover of the Growers Administrative Committee 1976-77 Season Annual Statistical Record, with over 100 pages of data and comment. The art work for this graph is by Lynn Chase, Art Director, Florida Citrus Mutual.



Editor

AVAILABLE PUBLICATIONS

Available from Dr. W. F. Wardowski, AREC, P. O. Box 1088, Lake Alfred, FL 33850

Items from Federal Register, Vol. 42 No. 50, March 15, 1977

Five selected pages from:

Pages 14495-14497. Coatings on fresh citrus fruit. (This lists all approved ingredients for fruit waxes with their specifications).

Pages 14522-14524. Petroleum wax. Specifications for petroleum wax for use in or on foods.

Pages 14532. Chemicals used in washing or lye-peeling fruits or vegetables.

Pages 14543. Pressure-sensitive adhesives for food contact use.

Page 14544. Paraffin (synthetic), and resinous and polymeric coatings. Specifications for such materials when used for treating food packages.

"R23979, an experimental postharvest citrus fungicide with activity against benzimidazole-resistant penicilliums" by A. A. McCornack, G. Eldon Brown and J. J. Smoot. Plant Disease Reporter 61(9):788-791. September, 1977.

"Postharvest decay control recommendations for Florida citrus fruit" by A. A. McCornack, W. F. Wardowski, and G. E. Brown. Fla. Coop. Ext. Serv. Circ. 359-A. February, 1976.

Available from Mr. B. Abbitt, AREC, P. O. Box 1088, Lake Alfred, FL 33850

"Citrus grove mapping can enhance your grove returns" by Ben Abbitt. Lake Alfred AREC Research Report CS77-4. October, 1977.

Available from J. J. Gaffney, USDA, ARS, 102 Agricultural Engineering Building, University of Florida, Gainesville, FL 32611

"Engineering principles related to the design of systems for air cooling of fruits and vegetables in shipping containers" by J. J. Gaffney. 29th Int. Conf. on Handling Perishable Agricultural Commodities. September, 1977. 14 pages.

Available from Mr. Frank Trovillion, Growers Administrative Committee, P. O. Box R, Lakeland, FL 33802

"1976-77 Season Annual Statistical Record" by Growers Administrative Committee. October, 1977. (See fresh fruit shipments graph in this newsletter).

Available from Dr. Walter B. Wallin, Market Analyst, USDA Forest Service, Forestry Sciences Laboratory, Princeton, West Virginia

"Pallet strength computation - a simplified procedure" by Walter B. Wallin. V.P.I. Engineering Experiment Station Bulletin No. 151. August, 1977.

This newsletter is published at a cost of \$86.70 or 7.8 cents per copy, to give the latest news to the packinghouse industry.

  
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