

# Florida Cooperative Extension Service

## PACKINGHOUSE NEWSLETTER



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Key Word Index Field Boxes, Fumigation, Pallet Boxes, Peel Injury,  
Transportation.

### AVOIDING FUMIGATION INJURY

Shipments of Florida citrus for California have been fumigated for fruit fly control for over 5 years with little trouble. Recently, however, a certain amount of peel injury has been encountered, even though fumigation conditions have not been changed. Experiments, observations, and a check of the literature provide the following explanation.

Fruit from vigorously growing trees are more susceptible to various forms of peel injury than are fruit from comparatively dormant trees. This is true both for the last of the old crop of grapefruit and the first of the new crop. These were only a week or so apart this summer; a most unusual situation.

Fumigation of packed fruit in cartons is more hazardous than is fumigation of unpacked fruit in open containers and certain precautions must be taken. The following comments apply to in-truck fumigation of packed citrus, particularly grapefruit.

Precooling prior to fumigation is not beneficial and may provide an additional hazard.

Ventilation after fumigation is critical; the load should be stacked so that it can be very freely ventilated to remove residual EDB from the cartons. Some form of "air stacking" such as the bonded block stack is advised. The fumigation of packed cartons on slip sheets is regarded as definitely hazardous as long as the fruit is very tender. The truck should run with vents open at highway speeds for at least 2 hours after fumigation prior to closing the vents and turning on the refrigeration. Unless the weather is very hot, up to six hours with vents open would be considered beneficial.

Very prompt refrigeration after fumigation is a very definite hazard. For cross country reefer trucks, refrigeration units should not be turned on until the load has been thoroughly ventilated. For fruit going from the fumigation station to a cold storage or ship's hold, it is better to defer going into refrigeration overnight than to risk too early cooling.

Gerald G. Norman  
Fla. Dept. of Agr.

Bill Grierson  
AREC, Lake Alfred

#### FRESH FRUIT PEEL INJURY AND DECAY

We have heard of and seen more citrus fruit with peel injury (PI) this season than at the start of any season in recent memory. Severe PI frequently leads to decay. The causes have included: injury from rough handling at harvest; excessive amounts of ethylene or too long degreening time; too much time between harvest and waxing (stem-end rind breakdown); improper sodium o-phenylphenate (SOPP) application and/or rinse; dirty equipment; too hard or too fast brushes (usually recently installed); dry fruit on dry brushes; chilling injury of grapefruit (very early fruit shipped below 60°F); and improper handling of loads before or after fumigation resulting in a burned peel.

The common response is, "but we have done that for years and got away with it." This season started earlier than normal, and although the internal quality meets legal standards, the fruit peel is immature. Immature peel is very sensitive and can react to any stress condition.

Will Wardowski  
Extension Service

#### AGRICULTURAL GROWTH IN AN URBAN AGE

A conference, "Agricultural Growth in an Urban Age", has been scheduled for February 11-12, 1975, in the J. Wayne Reitz Union Ball Room, University of Florida, Gainesville, to consider new long-range agricultural growth planning efforts. These reports will focus on the problems and potentials for further growth of Florida's agricultural industry on a commodity basis to the years 1980 and 1985. Special emphasis will also be placed on effects these factors may have on other economic, social, cultural and environmental facets of Florida's society. Many will be interested in attending this conference and we call this to your attention so you may keep these dates open. For further information, contact Dr. K. R. Tefertiller, Vice-President for Agricultural Affairs, 1008 McCarty Hall, University of Florida, Gainesville, FL 32611 (phone 904-392-1971).

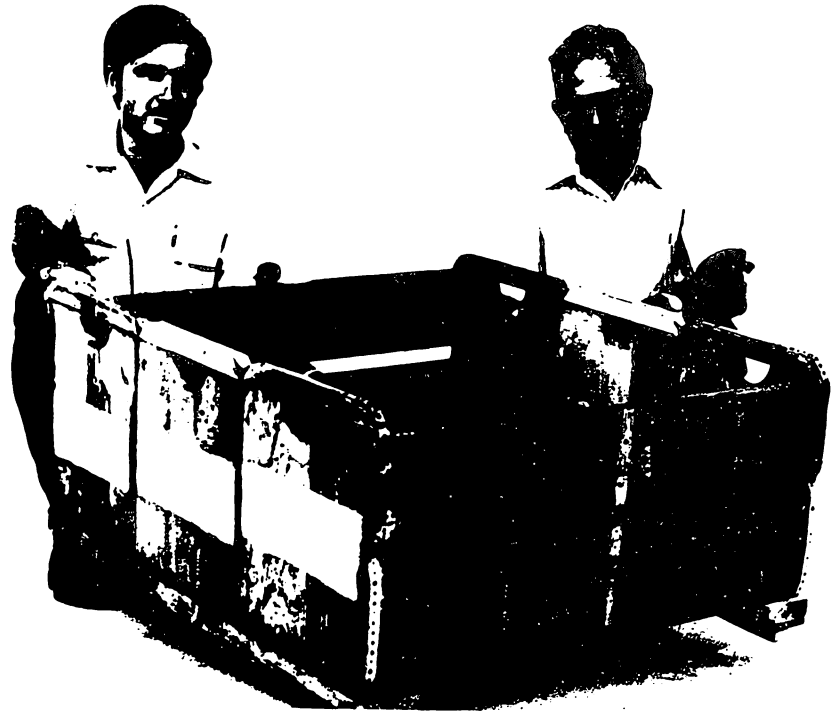
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USE FOR FLORIDA CITRUS FIELD BOX

The only fitting uses for Florida citrus field boxes have been for book or display shelves and for firewood. Bill Mixon, shown here with his son Dean, invented this mini pallet box using three field boxes. It is a sturdy pallet box that holds over 300 lbs of fruit, or many bushels of leaves and trash. The single field box is too big for a man and too small for a mule with its 90 lbs of fruit, and has been made nearly extinct by the pallet box holding 900 lbs.

Bill Mixon has two suggestions for anyone wanting to copy his design: Use 4 x 4 (instead of 2 x 4) runners for easier lift truck fork entry and make a hinged door of the side away from the lift truck for easy fruit removal.



It is nice to see someone find a use for old field boxes.

Will Wardowski  
Extension Service

AVAILABLE PUBLICATIONS

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

Packinghouse Newsletter Index for issues 1 - 66.

Available from Mr. Jesse Raybourn, Produce Marketing Assn., P. O. Box 674, Newark, DE 19711

"PMA 1974 Silver Anniversary Yearbook" 198 pages. Supplies limited.

Available from Agricultural Research Service, USDA, 2120 Camden Road, Orlando, FL 32803

"Influence of rootstock on citrus fruit abscission response to cycloheximide treatment" by W. C. Cooper and W. H. Henry. Proc. Fla. State Hort. Soc. 86:52-55. 1973.

Available from Economic Research Department, Florida Department of Citrus, 1157 McCarty Hall, University of Florida, Gainesville, FL 32611

"Industry and trade opinions of Florida's fresh grapefruit size regulations" by Gary F. Fairchild. Cir. 74-4. September, 1974. 40 pages.

Available from Mr. B. L. Wild, Gosford Horticultural Postharvest Laboratory, P. O. Box 355, Gosford, N.S.W., Australia, 2250

"Citrus Packinghouse Bulletin." New South Wales Department of Agriculture. 1:1-12. July, 1974. (This bulletin replaces Citrus Wastage Research News.)

"Quality control in lemon storage" by B. L. Wild and L. E. Rippon. Agricultural Gazette of New South Wales 84(3):142-144. June, 1973.

"Bulk dipping of citrus fruit" by L. E. Rippon and B. L. Wild. Agricultural Gazette of New South Wales. 84(3):133-135. June, 1973.

"Comparison of four systemic fungicides for postharvest treatment of citrus" by L. E. Rippon and B. L. Wild. Australian Journal of Experimental Agriculture and Animal Husbandry. 13:724-726. December, 1973.

This newsletter is published monthly at a cost of \$81.85, or 8.2 cents per copy, to give the latest news to the packinghouse industry.

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