

# Florida Cooperative Extension Service

## PACKINGHOUSE NEWSLETTER

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Key Word Index Air Filters, Canada, EDB, Ethylene Removal, Fumigation, Jobs, Labeling Cartons, Packinghouse Newsletter Policy, Van Containers, Safety.

### IN-TRUCK AIR FILTERS: REMOVAL OF RESIDUAL ETHYLENE DIBROMIDE (EDB) AFTER FUMIGATION, AND OF ETHYLENE WITH NON-CITRUS FRUITS

EDB is used to fumigate Florida citrus fruit (mainly grapefruit) destined for Japan, California, Texas and Arizona. Peel injury can result if residual EDB vapors persist in the load.

Activated carbon was very effective in reducing the level of EDB in an experimental fumigation chamber, while Purafil, an ethylene adsorbent was only slightly effective. Starting with an initial EDB level of about 350 ppm, circulation of the chamber atmosphere over activated carbon or Purafil for 3 minutes reduced the concentration of gaseous EDB by 89% and 23%, respectively. EDB level in the control run was reduced by only 13% over the 3 minute period, which was mainly due to exhaustion by the Infra-Red monitoring equipment. When recovery time was extended to 12 minutes, activated carbon lowered EDB concentration to 0, while Purafil reduced it to 42% of original level vs. 49% in the control (Fig. 1A. See page 2).

Based on these findings, and on previous findings by Grierson (Fig. 1B) on removal of ethylene, it is apparent that these two types of air filters have quite different potentials.

If residual EDB vapor is the problem, as in certain "van containers" with inadequate ventilation, then activated carbon is indicated. If ethylene poses a problem, as when shipping avocados under restricted ventilation, Purafil filters are indicated to remove ethylene and thus delay ripening.

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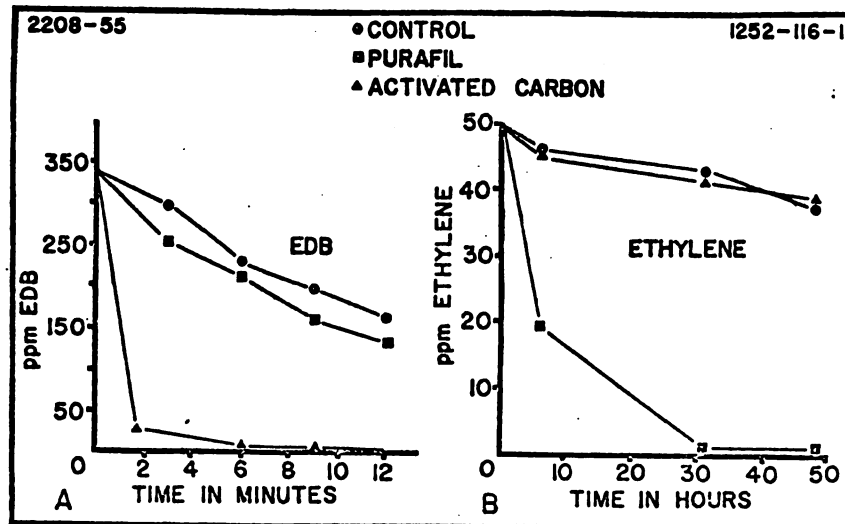


Fig. 1. Removal of EDB vapor (A) and ethylene (B) by activated carbon and by Purafil pellets.

#### FRESH FRUIT MAKES MORE JOBS FOR FLORIDIANS

To the businessman, the larger the payroll, the greater his headaches. However, to the community in which he lives, the size of the payroll is often far more important than the profits returned to shareholders or owners who are often out of state. Recent publications<sup>1</sup> show that 84% of last season's citrus crop went to the processors, providing postharvest employment for 9,000 workers. Only 16% was packed as fresh fruit, but provided employment for 12,000 workers.

From this, it follows that a million boxes of processed citrus provided approximately 47 jobs, but a million boxes packed as fresh fruit provided 333 jobs, seven times as many and at a time when jobs were sorely needed. Virtually all that payroll will have been spent in the state. Shipping fresh fruit is good for Florida.

Bill Grierson  
AREC, Lake Alfred

Will Wardowski  
Extension Service  
Lake Alfred

<sup>1</sup>"1974-75 Inspection Division Annual Report" and "Summarizing Florida Agriculture"; see Available Publications.

## In Memoriam

Charles L. Anderson, Extension Agricultural Economist, AREC, Lake Alfred was murdered in his home January 1, 1976 by an intruder. Charlie will be remembered by his colleagues and the citrus industry for his competence, humor, honesty and straight answers to complex questions. Charlie was well-known throughout the state for his income tax seminars. He will be missed. A reward fund has been established in his name at The Flagship Bank of Lake Alfred, Post Office Drawer 1446, Lake Alfred, FL 33850.

MORE ON CANADIAN LABELING REQUIREMENTS

At the recent Canadian Fruit Wholesalers' Association Convention in Toronto, Ed P. Grant, Director, Fruit and Vegetable Division, Canada Agriculture, announced the following decisions affecting the Canadian Federal Labeling Regulations:

Reference the March 1, 1976 deadline for compliance with Canadian labeling regulations (dual language and metric), no action will be taken by the Canadian Department of Consumer and Corporate Affairs either at the border, or in retail stores until July 1976. (This provides an additional four months for firms to bring their consumer packages into compliance with the regulations.)

Master Containers (shipping containers not normally sold to consumers) will not be required to be labeled in metric units until 1980.

If wax is used on a commodity, the wax must be identified on the container.

Berry baskets will be exempt from the Canadian labeling requirements.

The variety must be stated on consumer containers of apples and pears.

No color (tint or colored lines) is permitted on bags that will enhance the appearance of the product in the bag.

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PACKINGHOUSE NEWSLETTER COPIED

Imitation is said to be the sincerest form of flattery. Dr. Mina Schiffman-Nadel, The Volcani Center, Bet-Dagan, Israel reports that she has begun a newsletter patterned after our Packinghouse Newsletter. World-wide distribution is likely to be limited as it is published in Hebrew. Thank you for the compliment Mina, and best wishes with your newsletter. Incidentally, anyone is welcome to quote accurately from, or reprint articles from, our Packinghouse Newsletter - we ask only that you cite the source and credit the authors.

Editor

LIFT TRUCK SAFETY

Some points on lift truck safety from OSHA:

If at any time a powered industrial truck is found to be in need of repair, defective, or in any way unsafe, the truck shall be taken out of service until it has been restored to safe operating condition.

Fuel tanks shall not be filled while engine is running. Spillage shall be avoided.

Spillage of oil or fuel shall be carefully washed away or completely evaporated and the fuel tank cap replaced before restarting the engine.

Industrial trucks shall be examined before being placed in service, and shall not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. Such examination shall be made at least daily.

Where industrial trucks are used on a round-the-clock basis, they shall be examined after each shift. Defects when found shall be immediately reported and corrected.

Industrial trucks shall be kept in a clean condition, free of lint, excess oil, and grease. Noncombustible agents should be used for cleaning trucks. Low flash point (below 100°F) solvents shall not be used. Precautions regarding toxicity, ventilation, and fire hazard shall be consonant with the agent or solvent used.

Charles A. Coggins, Winter Haven  
John C. Sample, Tallahassee  
Fla. Dept. of Commerce Industrial  
Safety Representatives

AVAILABLE PUBLICATIONS

Available from Texas A & I University, Citrus Center, Weslaco, TX 78596

"Citriculture in Texas" editor, R. F. Leyden. Bulletin of Texas A & I University. 46(20):24 pages. July 1975.

Available from Intercit, Inc., 1575 South 10th Street, Safety Harbor, FL 33572

"Quality control manual for citrus processing plants" by V. C. Praschan. 263 pages. 1976. Price \$16.00 in the U.S.A., \$17.00 overseas.

Available from Division of Fruit & Vegetable Inspection, P. O. Box 1072, Winter Haven, FL 33880

"1974-75 Season Annual Report."

Available from Florida Department of Agriculture & Consumer Services, Room 115, Mayo Bldg., Tallahassee, FL 32304

"Summarizing Florida Agriculture."



W. Wardowski, Editor  
Associate Professor-  
Extension Horticulturist

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