

INSTITUTE OF FOOD AND
AGRICULTURAL SCIENCES
UNIVERSITY OF FLORIDA

FLORIDA
COOPERATIVE
EXTENSION SERVICE

PACKINGHOUSE NEWSLETTER

W. Wardowski, Editor
AREC
700 Experiment Station Road
Lake Alfred, FL 33850
Phone (813) 956-1151

Packinghouse Newsletter No. 124
March 12, 1982

Key Word Index Degreening, EDB, Gift Fruit Packinghouse Day, Pesticide Clearances, Post-harvest Treatments, PPM

PPM VS. PPB IN THE CONTINUING SAGA OF EDB

The standard way of referring to very small quantities (as for allowable residues of pesticides in foods) has long been in terms of "parts per million" (ppm), sometimes expressed in scientific writing as milligrams per kilogram (mg/kg) or milligram per liter (mg/l). A part per million is easily explained to the layman; it is the equivalent of 1¢ in \$10,000. A part per billion on the other hand may mean different things in different countries. It is internationally unintelligible. This is because the term "billion" is used for a thousand million in the U.S. and, we understand, in France also, but in most countries a "billion" means a million, million. (In British English a thousand million is known as a "milliard.")

Ethylene dibromide (EDB) is currently used for quarantine fumigation of citrus shipped to Japan as a measure of protection against the introduction of the Caribbean fruit fly into Japan. In 1977, the U.S. Environmental Protection Agency (EPA) decided to examine EDB uses, and in 1980 they proposed that its use on citrus and tropical fruits and vegetables be phased out by July 1, 1983. The EPA recommended the use of gamma radiation as a substitute for EDB. This proposal, however, was disapproved by the Scientific Advisory Panel (SAP) of the Federal Insecticide, Fungicide and Rodenticide Act. The SAP recommended that EDB use on citrus be retained and that there be a reevaluation of the risks and benefits of irradiation as an alternative for EDB.

In all the documents issued by EPA, the concentration of EDB is expressed in terms of parts per million (ppm) or milligram per cubic meter (mg/m³). Currently, the federal permissible exposure limit for EDB is 20 ppm.

In September 1981, California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) lowered the permissible exposure limit from 20 ppm to 130 ppb. There was a sudden switch to ppb. Cal/OSHA's use of ppb rather than ppm seems to unnecessarily alarm the laymen, since it makes extremely low exposure levels seem a thousand times greater than they are.

The 130 ppb EDB is actually 0.130 ppm which is equivalent to one mg EDB in one cubic meter of air. As a way of further complicating matters is the use of ppm or mg/kg/day in reporting cancer assessment results. This falsely portrays to the reader that rats and mice can be afflicted with cancer at what appears to be low concentrations of EDB. To avoid further confusion in matters related to exposure of EDB, let us stay with "parts per million."

Bill Grierson, AREC
Mohamed Ismail, FDOC
Lake Alfred

CITRUS GIFT FRUIT PACKINGHOUSE DAY

The Florida Gift Fruit Shippers Association are helping to plan and sponsor a Citrus Gift Fruit Packinghouse Day, Tuesday, May 18, 1982 at Lake Alfred. This program will emphasize gift fruit and the format will be similar to the annual September Citrus Packinghouse Day. The meeting will be open to the public, and lunch tickets must be purchased in advance from the Florida Gift Fruit Shippers Association, 521 N. Kirkman Rd., Orlando, FL 32811.

Will Wardowski
Extension Service
Lake Alfred

ETHYLENE USE LABEL REQUIRED

The following statements do not represent any change in the status of ethylene, but they are meant to serve as a reminder to the users of ethylene gas.

Ethylene gas used for plant regulation such as coloration or ripening of fruits and vegetables is legally regarded as a pesticide for regulatory purposes. Therefore, it must be registered with the EPA and the State of Florida. Containers must bear EPA approved labeling including EPA registration and establishment numbers, intended uses, ingredients statement, and appropriate precautionary labeling statements.

Users should insure that their suppliers are providing them with registered ethylene in properly labeled containers.

Mark Sherman, Editor
Handling Florida Vegetables 82-1
Gainesville, Florida
January 20, 1982

The above statements apply to ethylene degreening of citrus.

Editor

EPA ANNOUNCES CHANGES IN PESTICIDE ENFORCEMENT POLICY

An enforcement policy that would allow any person, regardless of his financial interest in the sale of pesticides, to advocate uses not included on the pesticide product label, has been signed by Gus Conroy, Director of the Pesticides and Toxic Substances Enforcement Division. Policy will overrule previous enforcement policy statements that preclude "pesticide sales representatives, marketing employees, or advertising agents" from advocating certain deviations from Federal Insecticide, Fungicide, and Rodenticide Act labeling requirements.

Current policy, entitled Section 2(ee) under FIFRA, concludes that it is not misuse to: 1) Apply a pesticide at any dosage, concentration, or frequency less than specified on the labeling; 2) Apply a pesticide against any target pest not specified on the labeling if the application is to the crop, animal or site specified on the labeling (unless the label states that the pesticide may be used only against pests specified on the label); 3) Employ any method of application not prohibited by the labeling; and 4) Mix a pesticide(s) with a fertilizer when such a mixture is not prohibited by the labeling.

Section 2(ee) "defines by law certain uses which will not be considered inconsistent with labeling even though these uses are listed," agency draft paper explains. Admitting that "our earlier policy prevented certain qualified individuals from recommending authorized deviation from the express terms of the label," agency illustrated some of the inconsistencies. Individuals in states with farm cooperatives are in the position to both use and sell pesticides. Previously, these persons were prohibited from recommending authorized uses. Integrated Pest Management consultants or farm management consultants were also prevented from advising pesticide users of alternate methods because "they may also be directly or indirectly connected to the sale of pesticides." With these barriers gone, Section 2(ee) may have a relatively important impact on industry, EPA sources speculate. (Toxic Materials News, July 29, 1981).

Chemically Speaking, August 1981
 Sam S. Fluker, Editor
 Pesticide Information Coordinator
 Building 803, Room 4
 University of Florida
 Gainesville, FL 32611

EPA EDB PHASE OUT FOR CITRUS USE MAY BE EXTENDED, OFFICIAL SAYS

EDB phase-out for citrus use, scheduled for 1983, might be extended until 1984 or 1985 or until gamma radiation is operational as a substitute, an EPA official noted last week.

He noted that next month, the EPA Carcinogen Assessment Group (CAG) will have completed a new EDB risk assessment and that a final decision on the pesticide (position document 4) will be issued in April. (Pesticide & Toxic Chemical News, December 9, 1981, page 16).

Chemically Speaking
 December 1981

AVAILABLE PUBLICATIONS

Available from Dr. W. Wardowski, AREC, 700 Expt. Sta. Rd., Lake Alfred, FL 33850

"Separation and Grading of Freeze Damaged Citrus Fruits" by W.F. Wardowski and W. Grierson. University of Florida Extension Circular 372. April 1972. 14 pages.

"Packinghouse Newsletters 115, 116 and 117 with Articles Relating to the Handling of Freeze Damaged Citrus Fruits.

"Effect of Individual Film Wrapping and Relative Humidity on Quality of Florida Grapefruit and Condition of Fiberboard Boxes in Simulated Export Tests" by K. Kawada and P. W. Hale. Proc. Fla. State Hort. Soc. 93:319-323. 1980.

"Surface Drying Fresh Citrus" by W. M. Miller. Energy Information Fact Sheet EI-49. University of Florida.

"In-Plant Study of Potential for Air Recycling in Fresh Fruit Drying" by W. M. Miller. Proc. Fla. State Hort. Soc. 93:332-333. 1980.

"Diphenyl Absorption by Honey Tangerines: The Effects of Washing and Waxing and Time and Temperature of Storage" by S. Nagy and W. F. Wardowski. J. Agric. Food Chem. 29:760-763. 1981.

Available from Dr. Mark Sherman, Vegetable Crops Dept., 1217 HS/PP Bldg., Univ. of Florida, Gainesville, FL 32611

"Ripening Tomatoes with Ethylene" by D. D. Gull. Florida Cooperative Extension Service. Vegetable Crops Fact Sheet VC-29. 4 pages.

"A Flow-Through System for Introducing Ethylene in Tomato Ripening Rooms" by M. Sherman and D. D. Gull. Florida Cooperative Extension Service. Vegetable Crops Fact Sheet VC-30. 4 pages.

Available from Dr. R. L. Kilmer, 1099 McCarty Hall, Food and Resource Economics Dept., Univ. of Florida, Gainesville, FL 32611

"Estimated Costs of Processing, Warehousing and Selling Florida Citrus Products, 1979-80 Season" by R. L. Kilmer and R. C. Hooks, Economic Information Report 144. May 1981.

"Estimated Costs of Packing and Selling Fresh Florida Citrus, 1979-80 Season" by R. C. Hooks and R. L. Kilmer. Economic Information Report 145. June 1981.

Available from Dr. D. L. Gunter, 1107 McCarty Hall, Florida Department of Citrus, Univ. of Florida, Gainesville, FL 32611

"Florida Citrus Outlook: 1981-82 Season" by D. L. Gunter and D. S. Tilley. Working Paper Series presented to Florida Citrus Commission, October 27, 1981.

Available from Dr. S. Ben-Yehoshua, The Volcani Center, P.O. Box 6, Bet Dagan, Israel 50500

"Effects of Cooling Versus Seal-Packaging with High-Density Polyethylene on Keeping Qualities of Various Citrus Cultivars," by S. Ben-Yehoshua, I. Kobiler and B. Sharpiro. J. Amer. Soc. Hort. Sci. 106(5):536-540. 1981.
See Packinghouse Newsletter 106 for an article by Dr. Ben-Yehoshua on this subject.

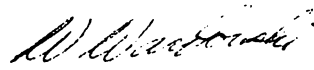
Available from Division of Fruit & Vegetable Inspection, P.O. Box 1072, Winter Haven, FL 33880

"1980-81 Season Annual Report."

Available from Florida Fruit Digest Co., 333 Laura Street, Suite 360, Jacksonville, FL 32202

"The Florida Fruit and Vegetable Directory, 1981 Season" published by Florida Fruit Digest Co. Price: \$7.00. Add 95¢ postage domestic or \$1.32 postage foreign, and 28¢ sales tax for Florida residents.

This newsletter is published at a cost of \$85.32 or 6 cents per copy, to give the latest news to the packinghouse industry.


W. Wardowski, Editor
Professor
Extension Horticulturist