



INSTITUTE OF FOOD AND  
AGRICULTURAL SCIENCES  
UNIVERSITY OF FLORIDA

FLORIDA  
COOPERATIVE  
EXTENSION SERVICE

## PACKINGHOUSE NEWSLETTER

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Packinghouse Newsletter No. 129  
November 24, 1982

Key Word Index EDB, California

### SHIPPING EDB FUMIGATED CITRUS TO CALIFORNIA

Interest by some Florida packers in shipping Florida citrus to California necessitates compliance with the provisions of a variance from Cal/OSHA's ethylene dibromide (EDB) standard (GISO 5219). The most important provision of this regulation is that exposure during unloading of fumigated commodities should not exceed 15 ppb measured over a 15-minute period.

The following is a suggested list of measures which can lower the level of EDB in fumigated citrus loads en route to California:

1. Use refrigerated trailers equipped with a bulkhead and 2 front and 2 rear vents. Avoid trucks with an air shield (wind deflector).
2. Cartons should be palletized in a single chimney stack and loaded on wooden pallets. Do not use slip sheets.
3. Open all front and rear vents for the first 12 highway hours following fumigation.
4. Close vents and refrigerate to 60°F.
5. Every 6-8 hours, open front and rear vents and turn off refrigeration unit. Drive truck for 1 hour to purge EDB buildup. Some ventilation can also be achieved while the truck is parked by opening the vents while the refrigeration unit is in operation. Each of the 1-hour ventilation periods can be synchronized to start at rest or meal times.
6. For the final 6 hours of transit, turn off refrigeration and open both front and rear vents.
7. Make necessary arrangements for immediate unloading after arrival.

Many loads of Florida citrus have been fumigated with EDB and shipped to California using a procedure similar to that described above. Most of these loads met the Cal/OSHA EDB standard of 15 ppb. Several California receivers were in turn granted a temporary variance for 1 year. The above measures are only a guide that may be subject to slight modification. Drivers should be acutely aware of the problems which may arise from subjecting the fruit to temperature extremes. Shippers should give detailed instructions regarding cooling and heating in transit.

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SEEKING TEMPORARY VARIANCE FROM CAL/OSHA'S REGULATION ON OCCUPATIONAL EXPOSURE TO EDB

Due to the presence in Florida of the Caribbean fruit fly Anastrepha suspensa, all citrus fruit shipped to California, Arizona or Texas have to be fumigated with ethylene dibromide (EDB). EDB, the only approved chemical fumigant for this pest, has been reported to cause cancer in laboratory animals.

On September 2, 1981, following the summer outbreak of the Mediterranean fruit fly in California, the California Division of Occupational Safety and Health (Cal/OSHA) adopted an emergency standard regulating occupational exposure to EDB. The new standard included the following provisions:

1. Exposure of employees to EDB shall not exceed 130 ppb (0.130 ppm) in the working area air.
2. Employers shall monitor and inform each employee of the levels to which he is exposed, and institute measures to limit exposure to no greater than 130 ppb.
3. Employers should provide training to employees on the hazards of EDB.
4. Signs must be posted warning employees of the cancer and sterility hazards of EDB.

Cal/OSHA started enforcing the new emergency standard on EDB, known as General Industry Safety Order (GISO) 5219, since September 23, 1981 when it was approved by the California Office of Administrative Law. Requirements of the emergency standard (which later on became permanent) triggered a boycott by major California supermarket chains of fumigated citrus from Florida, Texas and Mexico and of papayas and other tropical fruits from Hawaii. The supermarket chains could not cope with the monitoring, training, reporting and posting requirements of the GISO 5219.

Currently, Cal/OSHA can grant temporary variance from the four provisions listed above of GISO 5219 to employers receiving EDB fumigated commodities, if employee exposure in the operator breathing zone (OBZ) does not exceed 15 ppb (0.015 ppm) measured over any 15-minute period.

#### WHAT DOES THE CAL/OSHA VARIANCE ENTAIL?

A supplier of EDB-fumigated citrus or any other commodity shipped to California files an application to Cal/OSHA Chief on behalf of all his first receivers (buyers). Also, a first receiver may apply for and obtain his own variance. In this application a plan is to be presented supporting the feasibility of attaining occupational exposure to EDB not to exceed 15 ppb.

The following items are to be included in the application:

1. Specific work practices used by supplier to reduce EDB level along with a flow diagram of the processes involved in handling and shipping the fumigated commodity.
2. A method to review the specific work practices periodically.

3. Evidence that the work plan will result in lowering EDB level to 15 ppb or below when it is received in California.
4. Agreement to sample 10% of the shipments to assure that the specific work practices are effective.
5. Certification by the supplier that the exposure level in each shipment of EDB-fumigated commodity will be below 15 ppb.
6. Supplier agrees to label each box of EDB fumigated commodity with the following statement in 8-point type:

"This produce has been fumigated with Ethylene Dibromide (EDB) for the control of fruit fly infestation. Procedures approved by Cal/OSHA have been undertaken by the supplier to assure that worker exposure at this work place will be below 15 parts of EDB per billion parts of air (ppb) on a 15-minute sample (OBZ). Cal/OSHA has approved these procedures as an alternative means of compliance with the EDB standard."

Other features of the variance are:

1. The temporary variance is granted for a period of 1 year and only for the supplier and commodities identified in the applications.
2. The variance can be revoked if the applicant breaches the terms, but can be reinstated upon proof by the applicant to the Division that the specific work practices and methodology used to ensure compliance with the standard are restored.
3. Second receiver of fumigated commodities are covered by variance granted first receiver. They need not apply for a variance.
4. Data collected by the supplier shall be sent directly to the Chief of the Division of Cal/OSHA.

The above information was summarized from a 3-page publication of Cal/OSHA dated, April 5, 1982, entitled "Information for California Employers on the Procedure for Seeking Temporary Variances from the Cal/OSHA Regulation for Ethylene Dibromide (EDB)--Experimentation of New Safety Techniques for the Receiving of Sources of EDB Emissions". For further information contact Dr. Richard L. Wade, Deputy Chief for Health Cal/OSHA, P. O. Box 603, San Francisco, CA 94101.

This matter concerns an increasingly urgent principle, that is that shippers are legally obliged to meet the regulations of the receiving country (or in this case state). It does not imply that the pertinent agencies of the State of Florida agree that the limitations set by the appropriate federal agencies are inadequate to protect either workers handling produce or consumers of that produce.

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GIFT FRUIT DAY

The Second Annual Gift Fruit Day will be held at Lake Alfred on Thursday, May 19, 1983. The program is being planned with the Florida Gift Fruit Shippers Association to include short talks, scientist and commercial displays and discussion sessions on topics of greatest interest. The meeting will be open to the public. More details will appear in a later issue of this Newsletter. Reserve May 19, 1983 on your 1983 calendars.

Will Wardowski  
Extension Service, Lake Alfred

CHARLES SERAPHINE  
IN MEMORIAM

That first visit to "The River" was over 30 years ago, but I will never forget how I was overwhelmed with hospitality, principally because of three people: Charlie Seraphine (who died October 26), Bill Strickland, and Rip Graves. Bill Strickland took a day off to drive me the length and breadth of the Indian River citrus district. We turned into the packinghouse of the Indian River Producers' Association to meet the manager, Charlie Seraphine. His low-toned, understated comments did much to orient this ex-Canadian to the history and special role of the Indian River.

The conversation with Rip Graves led to the formation of the Florida Citrus Packinghouse Managers Association. When this became what is now the Florida Citrus Packers, Bill Strickland became manager and Charlie Seraphine moved into his position as manager of Seald-Sweet's Indian River operation. For more years than I can tally, Charlie Seraphine was my "No. 1 brains on the River." Among the several people that I would habitually call, I cannot imagine that any of them would begrudge him that accolade.

Charles Seraphine, we will miss your wise counsel, your deep historical knowledge of each and every regulation that might affect "The River," but, most particularly, we will miss your soft-spoken, ever-wise presence any time that we drive those weary miles down Highway 60 to the Indian River.

I find myself remembering standing in the British Museum before a Greek sarcophagus with (being translated) a classically simple inscription: "Artimidorus, farewell." Goodbye Charlie, 2,000 years later I cannot say it better. But it is a sad constraint of our times that only after you are gone can we say that we loved you.

Bill Grierson  
AREC, Lake Alfred

AVAILABLE PUBLICATIONS

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

"Regulatory actions affecting the use of ethylene dibromide in quarantine fumigation of citrus fruits" by M. A. Ismail, J. O. Craig and W. M. Miller. Proc. Fla. State Hort. Soc. 94:263-266. 1981.

The above publication includes a concise account of the events leading up to the two articles in this Newsletter. It also was given the Best Paper Award for the Handling & Processing Section of the 1981 Florida State Horticultural Society. Editor

<p>This newsletter is published at a cost of \$85.75 or 6 cents per copy, to give the latest news to the packinghouse industry</p>
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