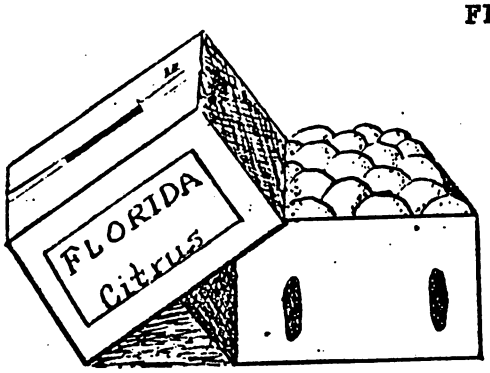
Newsletter No. 23

(*-*)
Citrus Station Mimeo Report CES 69-33
June 17, 1969
650-WG-Lake Alfred, Florida, 33850

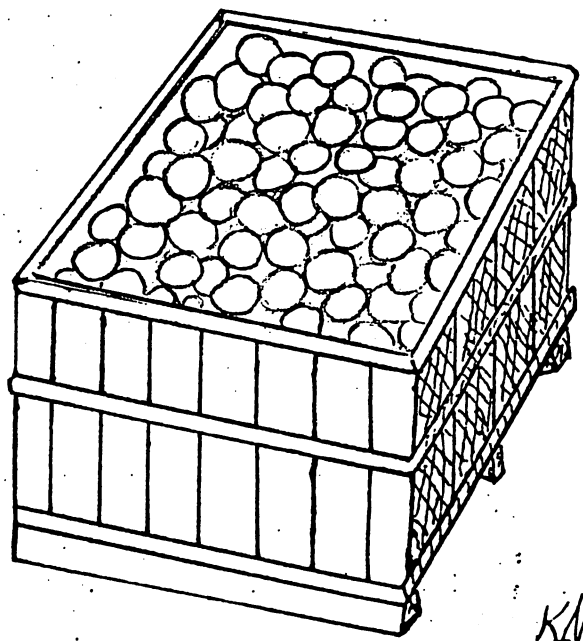
UNIVERSITY OF FLORIDA INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES

and

FLORIDA CITRUS COMMISSION



Packinghouse Newsletter



Harvesting and Handling Section
University of Florida
Citrus Experiment Station
P.O. Box 1088
Lake Alfred, Florida, 33850

(Complimentary to members of the Florida Fresh Citrus Shippers Association. Others wishing to receive this newsletter, send a dozen stamped preaddressed envelopes to the above address.)

Newsletter No. 23

(*-*)
Citrus Station Mimeo Report CES 69-33
June 17, 1969
650-WG-Lake Alfred, Florida, 33850

Harvesting and Handling Section

P A C K I N G H O U S E N E W S L E T T E R

Thiabendazole Residue Tolerance Approved.

Word has been received that thiabendazole (TBZ or Mertect 260) residue on citrus fruit has been approved by Canada, West Germany, Denmark, Sweden,and Australia. As soon as other citrus-importing countries act to establish a tolerance for this fungicide you will be notified by newsletter. Apparently the tolerances established by these countries is 2 parts per million in or on citrus fruit (as established by the U.S. Food and Drug Administration) with the exception of Australia which permits 10 parts per million. Notification of the Canadian approval will appear in the Canadian Gazette (Canadian equivalent of the Federal Register) by the middle of July.

COMMERCIAL USE OF THIABENDAZOLE

Thiabendazole, commonly referred to as TBZ, will be marketed under the registered trade name of Mertect 260 for use as a postharvest citrus fungicide. If it is properly applied, decay control is superior to Dowicide A or diphenyl. For the best control,this fungicide must completely cover the surface of the fruit. Plugs, scratches, thorn punctures, and particularly the area under the button of the fruit must be wet with thiabendazole solution.

Method of Application.--A flood application seems to be the most effective method of application. Experimental work on foam, spray,and wax applications have not progressed far enough that they can be recommended.

Where to Apply in the Packing Line.--Mertect 260 must be applied after the fruit is washed and before drying. Do not rinse the fruit after application of the fungicide. Fruit to be treated can be damp, but not wet. After Mertect has been applied, excess solution should be removed with water eliminators before the fruit enters the dryer or water wax is applied.

Time of Treatment.--Treating time must be long enough to completely wet the fruit. This can be a quick flood if the volume of fungicide pumped over the fruit is sufficient. An exception is mature 'Temples' late in the marketing season. At this time,decay control will be better if the fruit are wet with Mertect solution for about 2-minutes. Shippers heavy to 'Temples 'might want to take this into consideration when installing a Mertect applicator.

Strength of Treating Solution.--The recommended concentration is about 500 parts per million. A treating range of 250 to 1,000 parts per million has been effective in experimental work.

Determining the Strength of the Treating Solution.--A test kit to determine the strength of Mertect 260 in the packinghouse is being developed by Merck Chemical Division of Merck & Co. This is the company that manufactures Mertect.

Labeling Containers.--Thiabendazole is the chemical name of this fungicide and must appear on each carton or Bruce box. A suggested label would read: "Thiabendazole used as a fungicide".

General.--This fungicide is non-toxic to humans and warm-blooded animals. It has very little odor. No peel injury has been observed on any variety of citrus fruit on which it has been tested at concentrations as high as 10,000 parts per million.

As more information is available on the use of Mertect 260,it will be sent to you by newsletter.

Andrew A. McCornack
Horticulturist
Florida Citrus Commission

AVAILABLE PUBLICATIONS

Available from the Harvesting and Handling Section, C.E.S.

"Thiabendazole, an Experimental Fungicide for Fresh Citrus Fruit", 1967. A.A. McCornack and G. Eldon Brown. Proc. Fla. State Hort. Soc. 80: 232-237.

"Factors affecting decay control of Dowicide A-hexamine treated citrus fruit", 1968. A.A. McCornack and F.W. Hayward. Proc. Fla. State Hort. Soc. 81: 290-293.

"Experimental Forced-Air Precooling of Florida Citrus Fruit", 1969. J. Soule, G.E. Yost, and A.H. Bennett. USDA Marketing Research Report No. 845, May 1969.

Available from USDA, TFRD, ARS Federal Center Bldg., Hyattsville, Md., 20781.

"Effects of Vent Holes on Strength of Fiberboard Boxes and Fruit Cooling Rate", 1969. Glen O. Patchen, TFRD, ARS, USDA, ARS 52-34, March 1969. (We have a few available copies).

Available from U.S. Forest Products Laboratory, Madison, Wisconsin.

"Effects of vertical dynamic loading on corrugated fiberboard containers", 1968. W.D. Godshall. U.S. FS res. paper FPL 94.

Available from the Harvesting and Handling Section, C.E.S.

"Simulated In-transit Fumigation with 2-Aminobutane for Decay Control of Citrus in Consumer Packages", 1968. W. Grierson and Frank G. Martin. Proc. Fla. State Hort. Soc. 81: 278-285.

"Effect of Mechanical Harvesting on Suitability of Oranges and Grapefruit for Packinghouse and Cannery Use", 1968. W. Grierson. Proc. Fla. State Hort. Soc. 81: 53-61.

"A Rapid Method for the Preparation of Citrus Fruit Mitochondria", 1968. B.S. Buslig and J.A. Attaway. Proc. Fla. State Hort. Soc. 81: 239-242.

"Conversion of linalool to α-terpineol in citrus", 1968. J.A. Attaway and B.S. Buslig. Biochim. Biophys. Acta, 164: 609-610.

"Screening of Compounds for Reduction of Acidity in Citrus Fruit", 1968. J.A. Attaway and B.S. Buslig. Proc. Fla. State Hort. Soc. 81: 1-6.

"The Origin of Citrus Flavor Components - IV. The Terpenes of 'Valencia' Orange Leaf, Peel, and Blossom Oils", 1968. J.A. Attaway, A.P. Pieringer and B.S. Buslig. Phytochem. 7: 1695-1698.