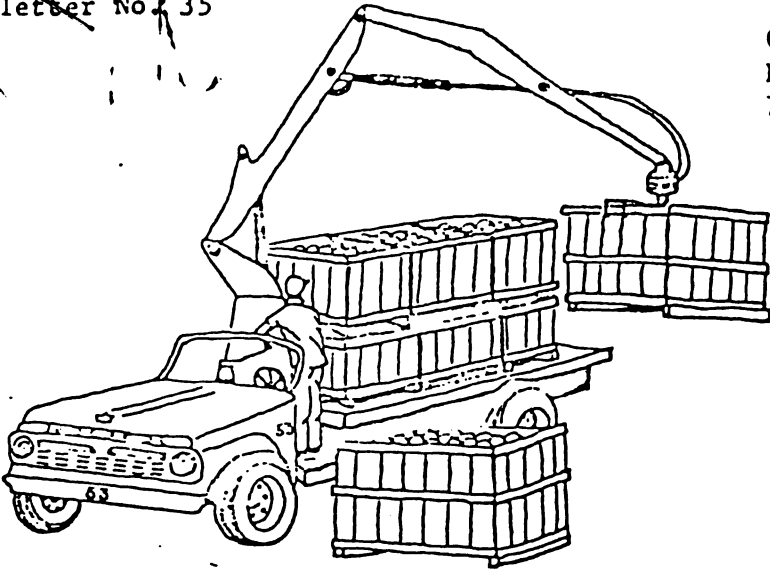


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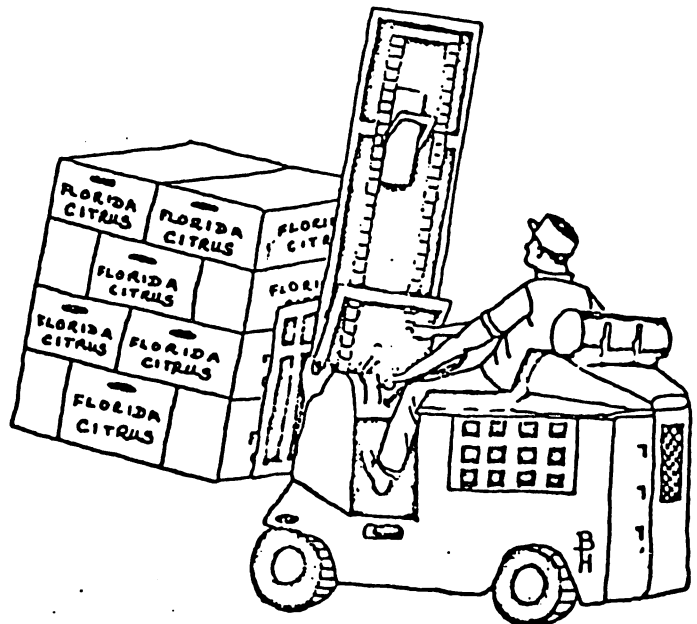
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Harvesting and Handling Section*
University of Florida
Citrus Experiment Station
P. O. Box 1088
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Packinghouse Newsletter

UNIVERSITY OF FLORIDA INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES

and

STATE OF FLORIDA, DEPARTMENT OF CITRUS



*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.

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

SEPARATION OF FROZEN FRUIT

It has been almost exactly a year since this Newsletter carried our recommendations for efficient separation of cold damaged oranges. Anyone setting up a frozen fruit separator is referred to Packinghouse Newsletter No. 27 of January 22, 1970. We have extra copies available for those who do not have Newsletter No. 27.

Editor .

USE OF TBZ IN SEPARATOR FLUID

No experimental work has been done at the Citrus Experiment Station to determine the value of using TBZ in frozen fruit separators. TBZ has reportedly been used commercially in an oil emulsion separator with some success. Use of TBZ in a water separator should be equally effective.

Contamination of separator tanks with green mold spores should be greatly reduced by a low concentration of TBZ in the separator fluid. In routine experimental work, TBZ applied at a strength of 200 ppm, without rinsing, effectively controlled decay of nondegreened 'Pineapple' oranges.

This is, however, a supplement to, not a substitute for, normal fungicide treatment, since most of the residue is removed by subsequent washing. The TBZ residue that is left is usually very low. Residue from TBZ applied to unwashed fruit in a frozen fruit separator would not be high enough to meet the minimum fungicide residue required by the Florida Citrus Commission fungicide regulation 105-1.43.

Andrew A. McCornack
Florida Department of Citrus

EMULSION SEPARATION CALLS FOR IMPROVED GRADING

Particularly scrupulous grading for mechanical damage is necessary when using an emulsion-type frozen fruit separator. We have had a number of inquiries about how to prevent oil emulsion entering punctures, plugs, etc. causing an objectionable flavor to the fruit. If this problem becomes serious enough, we may have to suggest Sunkist's patented fruit staining technique to make mechanical damage clearly apparent to the graders. This we are loathe to do because it would require more space and rebuilding of packinghouse lines. Meanwhile, all that we can recommend is that grading be made as efficient as possible.

Anyone interested in improving physical grading facilities is invited to contact us.

MECHANICAL PACKING REQUIRES IMPROVED GRADING

An item from the California Fruit & Vegetable Perishables Handling Newsletter applies very well to one of our own situations. Discussing mechanical filling of containers, Dr. F. G. Mitchell says:

"Sorting (grading) capacity appeared to be the most common limiting factor in new installations, with a few shippers complaining about sizer capacity. If a hand pack line has a capacity of 200 units per hour, and a new tight-fill (mechanical pack) line is designed to pack 800 units per hour, then the sorting capacity must be increased four times. This is actually minimum, since many hand packing lines have operated on the principle that the packer is also a final check grader."

This is despite the fact that grading facilities in California packinghouses, both for citrus and deciduous fruits, are usually less crowded, better lighted, and often mechanically superior to those which we are using at present. Not only that, but our picking problems are at least as great as their's; and hence, there is more damaged fruit to grade out than there has ever been in the past.

Do not commit yourself to mechanical packing, whether of bags or cartons, without first insuring an adequate number of graders working in comfortable, well-lighted conditions.

W. Grierson
Citrus Experiment Station

CITRUS STATION SCHOLARSHIP FUND

As many readers of this Newsletter will know, we set up a scholarship fund two years ago. This was to help capable non-academic staff members (laboratory technicians, technologists, etc.) upgrade their qualifications by completing their University training while working part-time.

The first beneficiary, George E. Good, has now completed his Bachelor's Degree at Florida Southern College. This note is to thank those who helped and to let them know that George Good amply repaid their trust by graduating with excellent grades and winning the award for the outstanding student in the Citrus Department. We are glad to have him back working full time and extend his and our thanks to the public-minded associations and companies who contributed. An initial \$1,100 was contributed by the R. D. Keen Family Foundation of Winter Garden. The balance of the \$2,450 collected was in contributions of from \$400 to \$50 dollars from the following donors:

Food Industries Research and Engineering, Lake Wales
Chase Groves, Inc., Sanford
Lake Placid Groves, Lake Placid
Blue Goose Growers, Inc., Orlando
Sefco, Inc., Vero Beach
Haines City Citrus Growers Association, Haines City
Winter Haven Citrus Growers Association, Winter Haven
Plymouth Citrus Growers Association, Plymouth
Ridge Lime and Avocado Growers, Inc., Lake Placid

Appreciation is also expressed to Mr. Walter Y. Murphy, Director of Financial Aid at Florida Southern College who handles these funds for us.

W. Grierson
Citrus Experiment Station

ANOTHER USE FOR DEGREENING ROOMS

Anyone who has purchased western Honey Dew melons in local groceries knows how frequently they fail to ripen. Below is an extract from an item by Dr. R. F. Kasmire in the Fruit and Vegetable Perishables Handling Newsletter, University of California at Davis, December, 1970.

"Ripening Honey Dew Melons with Ethylene at Destination Markets:

Receiving green Honey Dew melons that will never ripen by themselves continues to be a problem to some retail produce men. It is especially discouraging in California retail food stores that are so close to California's central valley, where most Honey Dews are grown. In one store, during the peak of the 1970 shipping season, 50 out of 53 Honey Dews displayed were green, and probably would never ripen. These melons had been in the store for 8 days. More unripe melons were in the back room. A sample of 20 melons were brought to the Mann Laboratory at the University of California, Davis, where they were treated with ethylene gas for 24 hours at about 70° F. All of these gassed melons ripened to a salable condition within 24 hours. They were returned to the retail store where all were sold within one day. These results suggest that gassing at destination worked, although it is not as desirable as gassing prior to shipping. Retailers who receive green Honey Dew melons could request their suppliers (chain store warehouse supervisor or wholesaler) to ripen the melons before sending them to stores. Banana ripening rooms would be excellent for ripening Honey Dews. A Honey Dew melon maturity and ripening guide is being prepared for distribution before next spring. Copies will be supplied upon request."

Citrus degreening rooms could very well be used and packers doing business with supermarkets handling considerable quantities of western melons might well consider negotiating to provide such a service.

W. Wardowski
Citrus Experiment Station

AVAILABLE PUBLICATIONS

Available from USDA/ARS/TFRD, Federal Center Building, Hyattsville, Maryland 20781.

"Transporting fresh fruit and vegetables overseas," by Russell Hinds, USDA/ARS 52-39. May, 1970. 34 pages.

"Photoelectric color sorting of vine-ripened tomatoes," by J. J. Gaffney and Otto L. Jahn. USDA MRR No. 868, December, 1970. (This is by the same team, using the same equipment as for the USDA color sorting studies on citrus.) 16 pages. \$.30.

Available from Publications Office, IFAS, University of Florida, Gainesville, Florida 32601.

"IFAS Annual Research Report," 1969. This is a 228-page report giving very brief accounts of all the several hundred research projects under investigation in 1969. These are extremely brief accounts, usually one paragraph, prepared direct from the computer printouts of the research workers' annual summary reports. Also included is a list for calendar 1969 of all the Journal Series papers published and theses and dissertations completed. Also included is a directory to Experiment Station personnel at Gainesville and 20 other Stations throughout Florida. We feel that anybody associated with Florida agriculture who sends for this may be pleasantly surprised at the amount of mileage they get for their research dollar.

Available from Harvesting & Handling Section, Citrus Experiment Station, P. O. Box 1088, Lake Alfred, Florida 33850.

"More profits through reduced losses: Proper citrus handling prevents problems," by W. Grierson. The Packer, December 26, 1970. Xerox copies are available.

"Progress in abscission of oranges," by W. Wardowski and W. Wilson. The Citrus Industry. December, 1970.