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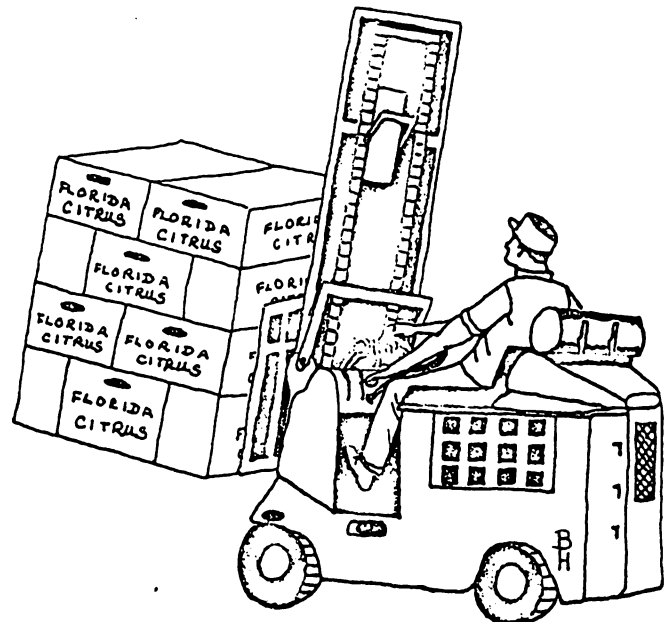
Packinghouse Newsletter

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 may 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

EDITOR'S NOTE

The objectives, policies, and format of this publication will be consistent to that in the past. A review of some points is in order for new recipients of the Packinghouse Newsletter.

The Newsletter is specifically concerned with harvesting, packing and shipping of fresh citrus fruit, and supplements information available in trade journals within the Florida citrus industry. It has the advantage of no space limitations and not having publication deadlines when the subject matter is urgent to the industry.

The development of a considerable mailing list would be an unreasonable load on our hard-working secretarial office. This is being avoided by supplying agencies, such as the Florida Fresh Citrus Shippers Association, with copies to mail out to their memberships. Others who wish to receive this Newsletter can do so by sending in a supply of stamped and self-addressed envelopes. Notification is given when the last envelope is used.

Subject matter will be drawn from any source which has information pertinent to the industry. Subject matter will include:

1. Emergency information: as when a critical period of decay or peel injury is observed to be developing.
2. Information about current research programs in which cooperators are needed or in which "information to date" may be useful to the industry, even though the program is not ready to be closed out and published as a bulletin, circular, or scientific paper.
3. Reviews of topics of general interest.
4. Recommended procedures and pesticides as related to harvesting and handling. This issue, for example, includes a review on degreening during a wet fall.

In order to avoid the problem of having to say something when we have not to say, we do not plan any definite schedule. The Newsletter will be issued v we have something to pass on that might be of value. Between whiles, we hope to be like Brer Rabbit and "lie low and say nuthin!"

W. Wardowski
Assistant Horticult'
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DEGREENING DURING A WET FALL

This is the first year for several years that we have started the season with very poor degreening conditions. Degreening is bound to be difficult when the summer is moist, and the trees are putting out flushes of growth after mid-summer. We have already had a number of calls about degreening rooms that mysteriously fail to work, although they ran well in previous seasons. This is almost certainly due to differences in the fruit, not to failure of the room or the operator. A wet summer and fall makes for difficult degreening conditions, especially in crops from groves that have had a high rate of nitrogen or nitrogen applied late in the season. In general, degreening recommendations remain exactly as stated by Andy McCornack in Packinghouse Newsletter No. 18, November, 1968. (If you do not have this, let us know; and we can send you one.) However, particular attention should be given to several points listed below.

Fruit Blemishes

Oleocellosis (oil spotting) can be expected to be severe when wet fruit are roughly handled. The oil cells are prominent on wet, turgid fruit and, hence, easily broken. Not only does this cause the black blemish known as oleocellosis, but the broken oil cells are a favorite point for entry of green mold (Penicillium) and other decay organisms. In wet weather, every effort should be made to enforce gentle handling by the pickers. Boxes should be lightly filled, and handling wet fruit should be kept to a minimum.

"Ring burns" sometimes occur at the points of contact between wet fruit held in the degreening rooms. There is a wide-spread belief that this is due to ethylene dissolving in the water on the fruit. This is not correct. The ring burns are formed when some soluble form of deposit on the fruit is dissolved, and the solution runs together and concentrates at the points of contact. It never happens with clean fruit and only occasionally with dirty fruit. We have been unable to determine which type of deposit on the fruit is particularly responsible. Fruit having heavy deposits of fertilizer dust, spray residues, etc. may develop blotchy areas even where the fruit are not in contact. It makes no difference at all whether the ethylene is turned on or not. Once you have received wet, dirty fruit, there is little that you can do about it. About the best advice is to turn the ethylene on, start degreening, and pray.

Sloughing of red and pink grapefruit has not been seen for several years. We believe that this is due to a happy combination of raised maturity standards for grapefruit and a succession of seasons with dry weather in the late summer and fall. When it occurs, it is a very treacherous and expensive trouble. Several days after picking, just enough to get the crop on its way to market, areas of the fruit turn chocolate brown and moist and can be slipped off the fruit under light finger pressure. This is a physiological disease, and we believe that is due to an immature condition in the peel after "internal quality" has reached picking standards. It always disappears from the grove within a few days, and we suggest cautious test pickings in groves of red grapefruit with a known past history of sloughing.

Zebra skin of tangerines is one condition that should be very much less likely to occur in a season such as this.

'Robinson' Tangerines

A special word of warning is offered with regard to this valuable, new fruit. It is very susceptible indeed to several fungi, including anthracnose (Colletotrichum), which does not usually cause fruit decay. 'Robinsons' should never be held in the degreening room for longer than 36 hours. They should not be picked until showing an orange color break. Small samples should be test degreened to make sure that large quantities are not picked until 36-hour degreening is possible. After packing, they should be refrigerated as promptly as possible.

'Temples'

'Temples' are the only citrus fruit known to the writer that show a true ethylene burn in serious amounts. This is a very treacherous thing appearing at any time up to 2 weeks after leaving the degreening room and causing large areas of fruit surface to darken. When this occurs (all crops are not susceptible), the amount of the damage is proportional to both time in the degreening room and the amount of ethylene used. It is the writer's opinion that 'Temples' should not be degreened. However, when they are being degreened, ethylene should be kept to the minimum (not much over one ppm); and the degreening period should be as short as possible.

Loading Degreening Rooms

Except for our latest design for degreening rooms using horizontal air movement in pallet box rooms (see Packinghouse Newsletter No. 5), slow degreening will be severely aggravated by overloading of the rooms. Particularly in rooms having minimal air circulation, be sure to leave ample space around the walls in order to get the best circulation possible. Overloading degreening rooms having barely enough fan capacity can be very costly, not only in terms of the delay in packing, but because the extra degreening time in this type of weather is apt to cause very severe losses from Diplodia stem-end rot.

AVAILABLE PUBLICATIONS

Most of this has been covered in Bulletin No. 681, September, 1964, "Better Handling of Florida's Fresh Citrus Fruit." We have copies available for anyone who needs them.

Attention is drawn to the fact that color prints and descriptions of most types of citrus diseases, insects, etc. (including most of those described above) can be seen in the hard-cover book "Florida Guide to Citrus Insects, Diseases, and Nutritional Disorders in Color," edited by Robert M. Pratt. This book is for sale and available from the Experiment Station for \$4.00 plus \$.16 sales tax (plus postage if outside of the USA). It is well worth the money.

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Citrus Experiment Station

TBZ INTERNATIONAL RESIDUE TOLERANCES

Dr. W. L. Kilian, Merck Sharp & Dohme International, provided the following information about residue tolerances of TBZ outside of the U.S.A. which supersedes previous lists.

"Citrus fruit treated with thiabendazole can be shipped into Denmark, Sweden, Norway West Germany, Holland, Canada, Switzerland, Austria, Brazil, Mexico, and Australia under the 2 ppm tolerance."

"France allows citrus importation at 3 ppm tolerance level, and Italy's approval is pending also at the 3 ppm level."

DARE CONFERENCE

The University's annual DARE (Developing Agricultural Resources Effectively) meeting has been scheduled for October 29-30. The conference will be devoted primarily to reports from committees on developmental problems and opportunities seen through 1980.

The conference, open to all those interested in Florida agriculture, will be held in the auditorium of the J. Hillis Miller Medical Center. The banquet will be held in the J. Wayne Reitz Union.

AVAILABLE PUBLICATIONS

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (price, \$.25).

"Experimental Forced-Air Precooling of Florida Citrus Fruit," May, 1969. Marketing Research Report No. 845. Agricultural Research Service, USDA.

Available from the Harvesting and Handling Section, Citrus Experiment Station.

Abstracts of talks, Eighth Annual Packinghouse Day, September 3, 1969.

"Florida Guide to Citrus Insects, Diseases and Nutritional Disorders in Color," April, 1958. Agricultural Experiment Station, Gainesville, Florida. Edited by Robert M. Pratt. \$4.00 plus \$.16 sales tax (plus postage if outside of the USA).