

PACKINGHOUSE NEWSLETTER

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WASHER CAPACITY

Many packinghouses have increased packingline capacity without increasing either the length or width of their washer brush bed. In some cases, this change has led to ineffective cleaning of the fruit. Work in Australia (1) has indicated a minimal 30 sec time interval for proper cleaning. In all cases, the washing time should remain above 20 sec (2). These times are established for fruit in a single layer i.e. all fruit are in contact with the brushes. The following graphs show the relationship between packingline capacity and length of the brush bed for a 30 sec wash time. Problems such as sooty mold may necessitate even longer cleaning times. Curves were generated for grapefruit and oranges assuming a 75% projected area fill of the brush bed. The typical 52 inch (1.32 m) wide washer size is not shown. For minimal overdesign, a 48 inch (1.22 m) wide bed would be assumed; necessitating in a slightly longer brush bed.

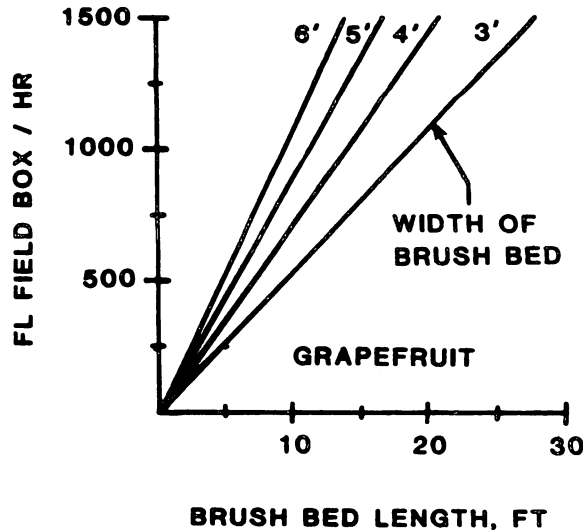
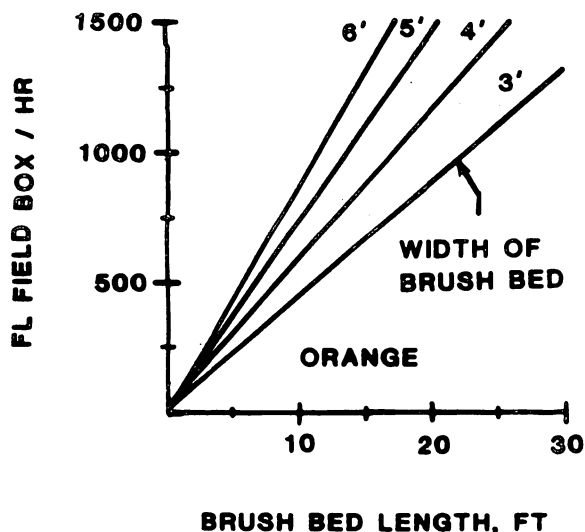


Fig. 1. Packingline capacities for various brush bed length and width combinations (30 sec wash time).

Tumbler (wavy-pattern) or spiral wound brush designs are effective when fruit volume is not excessive. Also, more rigid brush fibers result in effective cleaning but they may cause damage to sensitive-skinned fruit. Pre-wetting of the fruit is advisable. For all washers, a wipe-out, either manual or motor-driven, should be incorporated to remove fruit before abrasive damage occurs.

A study of washer efficiency in some Florida concentrate plants (3) revealed two other very pertinent factors. First, the post-wash rinse was of critical importance. A 52 inch washer with ten sprayheads, each of 2 gals/min was considered necessary for adequate cleaning. Secondly, washing efficiency was not affected by brush rotation speed (150-270 rpm).

Increased costs of fungicides, color-add and waxes, plus associated problems with their residues in processed products (especially essential oils) has caused greater interest in grading immediately after washing. The dumping and washing capacity should then be increased to balance the fruit eliminated immediately after washing in order that all machinery is run at optimum capacity.

References

1. Post-harvest Handling of Citrus Fruit. L. D. Jarrett and B. L. Tugwell. Dept. of Agr. and Fisheries, South Australia, Sp. Bull. No. 11.75. 1975.
2. Packingline Machinery for Florida Citrus Packinghouses. W. Grierson, W. M. Miller, and W. Wardowski. IFAS, Univ. of Fla. Bull. 803. 1978.
3. Cleaning efficiency of brush washers in citrus concentrate plants. T. R. Rejimbai, Jr. and R. E. Bigler. Proc. Fla. State Hort. Soc. 85:254-257. 1972.

Bill Miller, Bill Grierson
AREC, Lake Alfred

CANCELED

1982 EASTERN PRODUCE WORKSHOP

CANCELED

This meeting, described in our last issue has been canceled due to a much regretted illness in the family of one of the meeting organizers. This Newsletter will notify readers if the workshop is rescheduled in 1983 as is now planned.

Editor

CITRUS PACKINGHOUSE DAY

The Twenty-first Annual Citrus Packinghouse Day is scheduled Wednesday, September 8, 1982, at the Agricultural Research and Education Center, Lake Alfred. This meeting is expected to be for a standing room only crowd as we have had in the last few years. Talks and displays will be presented by scientists and citrus packers from at least ten different organizations.

The subjects are expected to include decay control, hand harvesting, worldwide acidity reduction, solar energy, degreening, weight sizing, the new FDOC/AREC mass spectrometer, packers' conferences, ethylene dibromide fumigation, cold treatment tests, irradiation tests, The Florida Citrus Packers, packout economics, new varieties, film wrapping, marketing film wrapping, bulk shipping bins, electronic sorting and fruit flow through the packinghouse.

There will be morning talks, a lunch and afternoon equipment displays. There will be less space than in the past so that commercial companies are encouraged to reserve space soon. All commercial displays must first obtain an invitation from The Florida Citrus Packers, P. O. Box 1113, Lakeland, FL 33802. Phone (813) 682-0151.

This program is jointly sponsored by the University of Florida, the Florida Department of Citrus and The Florida Citrus Packers. In recent years, the 250 to 300 attending Citrus Packinghouse Day represented most of the fresh citrus fruit packed in Florida. Anyone is welcome to attend--we look forward to seeing you there.

Will Wardowski
Extension Service
Lake Alfred

FOURTH INTERNATIONAL CONGRESS OF PLANT PATHOLOGY

This meeting is distant in location (Melbourne, Australia) and time (August 17-24, 1983). Dr. Brian L. Wild is coordinator of Section XIV Postharvest Pathology described as "Physiology and biochemistry of infection, including latency and wound healing. New fungicide treatments and pathogen resistance. Environmental influences on decay." Dr. Wild indicated that Section XIV would include many crops, and that citrus would receive good coverage. For further information about the Congress, write to Dr. G. Weste

Congress of Plant Pathology
Botany Department, University of Melbourne
Parkville, Victoria, 3052 AUSTRALIA

Editor

AVAILABLE PUBLICATIONS

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

Citrus Gift Fruit Packinghouse Day Program and Abstracts. May 1982.

Packinghouse Newsletter Index for Issues 1-127.

Available from Mr. Ron Muraro, AREC, 700 Expt. Sta. Rd., Lake Alfred, FL 33850

"Estimating the damage to citrus trees and the resulting value loss due to the January 1982 freeze" by R. Muraro and J. F. Kurras. Florida Food and Resource Economics No. 45. March-April 1982.

Available from Dr. T. T. Hatton, USDA, 2120 Camden Rd., Orlando, FL 32803

"Effects of ethylene on chilling injury and subsequent decay of conditioned early 'Marsh' grapefruit during low temperature storage" by T. T. Hatton and R. H. Cubbedge. HortScience 16(6):783-784. 1981.

Available from Dr. Brian L. Wild, Gosford Horticultural Postharvest Lab., P. O. Box 355, Gosford, NSW 2550, AUSTRALIA

"Beware of the wax knobs" (On packingline machinery-Editor), by B. L. Wild. Rural Newsletter. March 1982.

"The effects of waxing citrus fruits" by B. L. Wild. Rural Newsletter. June 1981.

"How feasible is commercial storage of lemons?" by B. L. Wild. Rural Newsletter. March 1982.

"Citrus blue mold, and its resistance to the fungicide guazatine" by B. L. Wild. Rural Newsletter. December 1981.

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

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