INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES
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FLORIDA COOPERATIVE EXTENSION SERVICE

PACKINGHOUSE NEWSLETTER

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Editor's Note: The following article from South Australia has important information which applies to the Florida fresh citrus industry.

PACKING LINE PERFORMANCE CAN BE DETERMINED BY MEASURING CITRUS WEIGHT LOSS

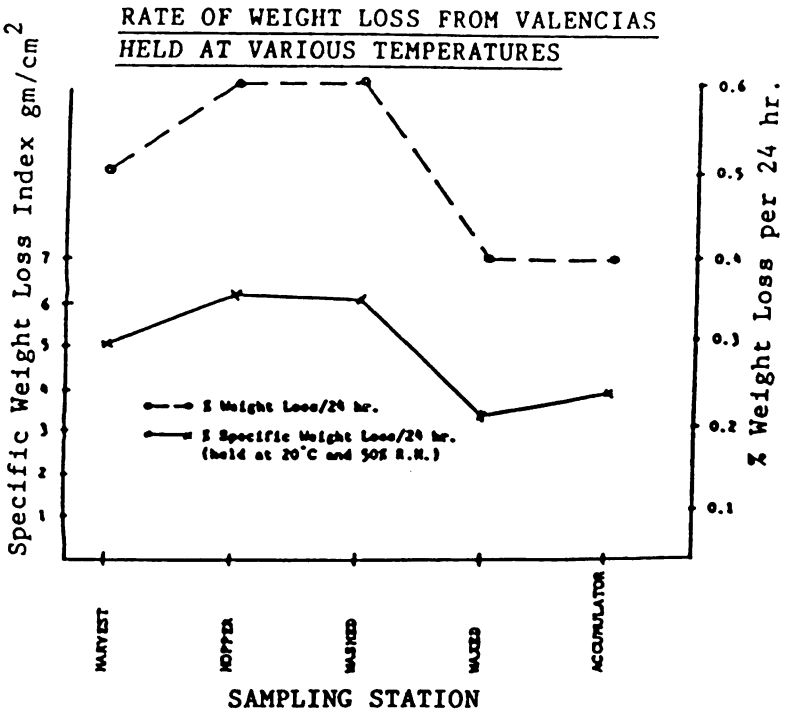
Recent problems with citrus rind breakdown prompted an investigation of the effect of citrus packing procedures on rind injury. Citrus fruit weakened by mechanical injury will loose moisture and dehydrate more rapidly than undamaged fruit. By measuring the rate of weight loss from citrus selected from various sections of a packing line excessive damage can be detected and action taken to reduce injury. The efficiency of the wax applicator in reducing weight loss can also be checked. Wax applied correctly should reduce the rate of weight loss by 30% to 50%. Washing and brushing fruit can result in a 20% increase in the rate of weight loss so it is essential that a wax is applied to restore the fruits natural resistance to weight loss.

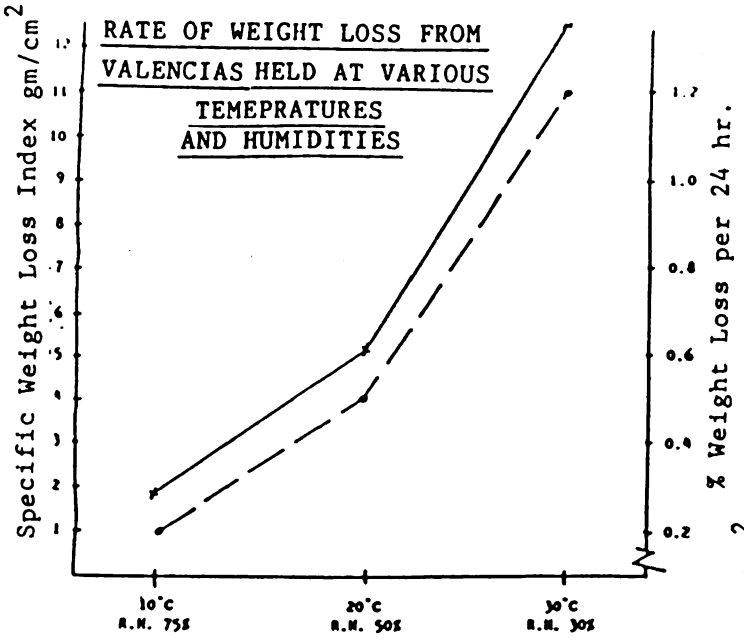
Tests on two Riverland citrus packing lines showed that packed fruit has a higher resistance to weight loss than freshly harvested fruit.

% weight loss per 24 hours (Valencia Oranges)					
	Harvest	Hopper[1]	wash	wax	accumulator
Shed 1 (20°C)	0.5	0.6	0.6	0.4	0.4
Shed 2 (25°C)	-	0.8	0.99	0.61	0.67

[1]At dumper

For both sheds the rate of weight loss from the fruit was 20% less after processing.



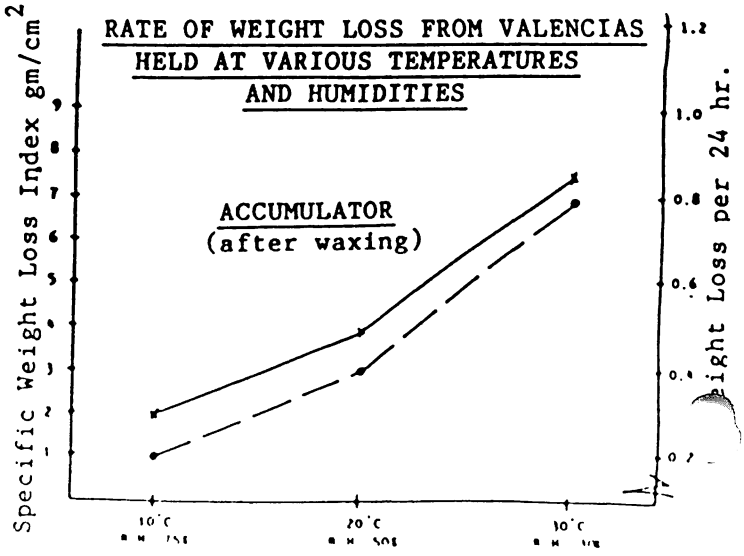


These tests have shown that the two packing lines tested were not causing excessive rind injury and weight loss and that the fruit was adequately waxed during processing.

Temperature is the most important contributing factor to fruit weight loss after harvest. The rate of dehydration can increase from 0.2% weight loss per day at 10°C (50°F) to 1.2% per day at 30°C (86°F).

In order to avoid the development of rind breakdown resulting from excessive dehydration of harvested fruit, packers should ensure that during spring and summer months fruit is processed within 24 hours of harvest and held in a coolroom after packing.

Barry Tugwell
South Australian Dept
of Agriculture



Editor's Note: The following notes are from an excellent presentation at the September 1988 Citrus Packinghouse Day.

THE AUSTRALIAN CITRUS INDUSTRY

Australia's population of over 16,000,000, lives in an area similar to the continental U.S.A. 95% of the population lives within 200 miles of the coastline, with 80% living on the eastern and south eastern areas of the continent.

There are about 4,500 commercial citrus growers in Australia, who produced a total of just under 700,000 tons of citrus last year. The citrus industry in Australia has grown by about 40% since its 490,000 ton production in 1983-84. Oranges, mainly Valencia and navel, represent 80% of Australia's production and there have been major increases in the production of both oranges and mandarins over the last few years.

The United States with its 11.5 million ton plus production, exports about 15% more fresh fruit than our total domestic production. Our 700,000 ton domestic production has just under 60% processed, about 7% exported fresh and around 33% sold in the domestic fresh markets. This large processing market for Australian citrus has exposed the citrus industry to the world juice prices. When coupled with a government that sees countries like Brazil as a developing country which means 10% import duty is reduced to 5% on juice from Brazil. When Brazil gluts the world market with processed juice, it greatly impacts on the Australian citrus processing industry and we have no government protection from this world glut situation.

I come from Queensland, and like most people that choose to live in the warmer areas of a contintent, we are a little smarter. Queensland produced about 12% of last years Australian citrus production. We have the advantage of being able to exploit the Australian fresh market before the southern growers commence their season. Over 80% of the Queensland citrus production is sold on the domestic fresh market, about 7% is exported and only about 8% is processed. We also grow over 75% of Australia's mandarins in the warmer regions of Australia's citrus production areas. Of course, we would do better if we could keep the imported late Californian citrus off our early fresh market. In 1986-87, Australia imported 9,300 tons of fresh citrus and the equivalent of 80,629 tons of citrus juice.

Our problems - We have our own movements against the use of chemicals and are closely watching the U. S. farmer and his problems in this area. We have our share of organic farmers who are now demanding to sell fresh produce with live insect infestation included in the price.

As an industry we have recognized the need to expand or export markets. Our federal government has recently introduced some new organizations to coordinate this export drive and the citrus industry has joined the Australian Horticultural Corporation as a founding member industry.
Queensland is interested in export, but is not too keen on paying more levies to solve a mainly southern marketing problem (you would say northern marketing problem). To this end, the federal government has recently introduced 'Export Control Orders', and our packinghouses (we call them "Sheds") are having some difficulty coming to grips with these regulations. At least we have a strong

Australian Citrus Growers' Federation (A.C.G.F.) which is able to talk to government and a government that is currently listening to our teething problems with the new 'Export Control Orders'. Last year we exported 51,744 tons. Our major customers were Singapore, New Zealand, Malaysia, Canada, Saudi Arabia, Hong Kong and South Pacific Islands.

H. A. Meyer
Mundubbera
Queensland, Australia

Available from Dr. Brian Wild, Gosford Horticultural Postharvest Laboratory, P. O. Box 355, Gosford, NSW 2250, Australia

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Available from Dr. W. Wardowski, CREC, 700 Experiment Station Road, Lake Alfred, Florida 33850

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