INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES
UNIVERSITY OF FLORIDA

FLORIDA COOPERATIVE EXTENSION SERVICE

PACKINGHOUSE NEWSLETTER

W. Wardowski, Editor
AREC
P. O. Box 1088
Lake Alfred, FL 33850

Phone (813) 956-1151

Packinghouse Newsletter No. 114
October 14, 1980

Key Word Index Carcinogens, Color-add, Grapefruit, Packaging, Storage

"UNI-PACK" INDIVIDUALLY WRAPPED STORAGE OF GRAPEFRUIT

The keeping quality of grapefruit is improved and storage life can be prolonged by "Uni-Pack", i.e., wrapping individual fruit in a thin plastic film bag which then can be heat shrunk.

"Uni-Pack" not only keeps freshness of grapefruit in terms of minimizing weight loss, softening, peel color and gloss changes, but it also reduces fruit deformation, chilling injury, and stem-end rot.

"Uni-Pack" prevents contact infection and so called "soilage" (blemishing of sound fruit by mold spores) problems caused by green mold, and make it easy to discard spoiled fruit. "Uni-Pack" can also make a very attractive brand-named consumer packaging.

A type of "Uni-Pack" has been done mechanically in Israel and South Australia. They hope to use the system as an alternative *for refrigerated* storage. The additional cost of "Uni-Pack" may be easily recovered on selected high-quality fruit particularly if a wrapping machine is employed. Choosing the right plastic film is critical. For the present, a 15 μ irradiated low density (high pressure) polyethylene film seems to be best.

Kaz Kawada
Gene Albrigo
AREC, Lake Alfred

The above item is from the Citrus Packinghouse Day Program, September 3, 1980 (see Available Publications). Another article on this subject was written by S. Ben-Yehoshua and D. Nahir in Israel for Packinghouse Newsletter No. 106, October 8, 1979.

Editor

The Institute of Food and Agricultural Sciences is an Equal Employment Opportunity - Affirmative Action Employer authorized to provide research, educational information and other services only to individuals and institutions that function without regard to race, color, sex, or national origin.
COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS, STATE OF FLORIDA, IFAS, UNIVERSITY OF FLORIDA, U.S. DEPARTMENT OF AGRICULTURE, AND BOARDS OF COUNTY COMMISSIONERS COOPERATING

CONSERVATION OF COLOR-ADD

We have been told that there may or may not be enough color-add for the 1980-81 citrus season. The immediate suggestion to Florida citrus packers is to conserve color-add as much as possible. There are several means of conservation that most packers know and practice to varying degrees.

Season. Use color-add only when necessary. As soon as cool night temperatures develop fruit to marketable color, turn off the color-add to reduce chemical and fuel bills. Resist color-adding to enhance acceptable color.

Grading and Pregrading. On the average, 40% of Florida's orange crop entering the packinghouse leaves as cannery-bound eliminations. Grade before color-adding and save color-add. Also, it is very important to not allow any decayed or split fruit to enter the color-add tank because the fruit acid will upset the pH in the color-add emulsion impairing its effectiveness. Total pregrading will give the greatest savings not only of color-add, but also of fungicides, waxes, dryer and color-add energy, and wear and tear on the equipment.

Clean Tanks. Flood pans and screens should be cleaned at least daily. Clean color-add tanks can be expected to run without dumping and recharging for 6 to 8 weeks. If you must recharge sooner, look for the problems that made the recharge necessary.

Color-add Strength and Temperatures. Maximum temperatures are specified in Florida Department of Citrus Rule 20-32.11, 120 F for oranges and 115 F for Temples and tangelos. No other citrus may be color-added. Follow the label directions for solution strength and make-up solutions.

Crystallization. Color-add may crystallize and be partially lost for the intended use. When this happens it may be possible to add some of the solvent additive (color-add solution without the dye) and bring the crystals back into solution. If you see crystallization in your color-add tank, contact your supplier for instructions.

Control of pH. The emulsion should be slightly on the alkaline side.

Water Quality. Use pure, clean water. If the water is very hard, use a water softener.

Of course, every effort is being made to get new supplies of Citrus Red No. 2, but meanwhile we should not count on it.

Will Wardowski
Extension Service

Bill Grierson
AREC
Lake Alfred

THE NO-CANCER LIFE STYLE

The above title is on an article in a recent issue of Prevention magazine[1]. This article covers many topics including the following reference to fresh citrus consumption:

> "High daily consumption of fresh oranges and grapefruit may account for the fact that the colon cancer rate in southern Florida, California and Arizona is half the national average, according to researchers at Florida Atlantic University."[2]

We have frequently quoted statistics showing that age adjusted deaths in the United States from lung cancer increased over the last 50 years, while deaths from all other types of cancer has decreased or remained constant. The term age adjusted is important because life spans are longer today than in the past. The article in Prevention magazine closes as follows:

> "In fact, the cancer epidemic itself may be overrated. For the nonsmoking population, cancer may even be on the decline.
>
> "'Since 1950,' writes Dr. Higginson, '...despite long-standing industrialization, a rapidly expanding petro-chemical industry, and increasing awareness of occupational hazards, the overall cancer rates are decreasing in black and white females and in white males if tumors related to alcohol and tobacco are excluded' (*Journal of the National Cancer Institute*, December, 1979).
>
> "'If deaths from lung cancer are subtracted,' and another observer points out, '...the overall 'incidence' of death from cancer would be less today than in 1933, by about 10 percent'(*Pediatrics*, November, 1979).
>
> "So we're really no more vulnerable to cancer than our parents were. And if we watch our lifestyle by cutting down on fats, eating more vegetables, letting off steam and showing affection, and getting a fair amount of exercise, our risk may even be less."[2]

---

[1]The No-Cancer Lifestyle by Kerry Pechter, Prevention Vol. 32(7):76-82.

[2]Reprinted with special permission from the July 1980 issue of PREVENTION Magazine. Copyright 1980 by Rodale Press, Inc., Emmaus, Pennsylvania.

Will Wardowski
Extension Service

Bill Grierson
AREC, Lake Alfred

AVAILABLE PUBLICATIONS

Available from Dr. W. Wardowski, AREC, P. O. Box 1088, Lake Alfred, FL 33850

"Nineteenth Annual Citrus Packinghouse Day" program and abstracts. September 3, 1980. 16 pages.

Available from Mr. R. Clegg Hooks, Food & Resource Economics Dept., G-104 McCarty Hall, University of Florida, Gainesville, FL 32611

"Estimated costs of packing and selling fresh Florida citrus, 1978-79 season" by R. C. Hooks and R. L. Kilmer. Economic Information Rpt. 133. April 1980.

"Estimated costs of picking and hauling fresh Florida citrus, 1978-79 season" by R. C. Hooks and R. L. Kilmer. Economic Information Rpt. 134. May 1980.

"Estimated costs of processing, warehousing and selling Florida citrus products, 1978-79 season" by R. C. Hooks and R. L. Kilmer. Economic Information Rpt. 136. July 1980.

Available from Dr. R. E. McDonald, SEA-AR, NPS, Room 138, Bldg. 005, Beltsville Agricultural Research Center-West, Beltsville, MD 20705

"Physical and chemical characteristics of lemons from several countries" by R. E. McDonald and B. M. Hillebrand. Journal Amer. Soc. Hort. Sci. 105(1): 135-141. 1980.

W. Wardowski, Editor
Professor
Extension Horticulturist

This newsletter is published at a cost of $80.40 or 7¢ cents per copy, to give the latest news to the packinghouse industry.