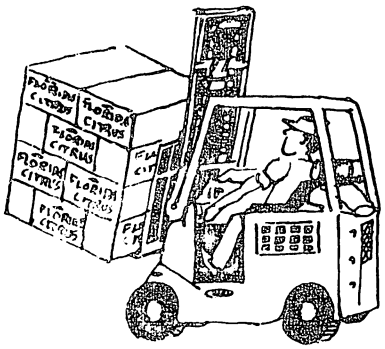
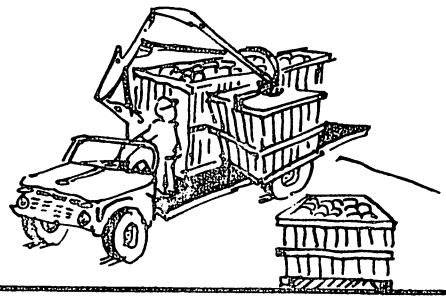


Florida Cooperative Extension Service

PACKINGHOUSE NEWSLETTER



Institute of Food and Agricultural Sciences
University of Florida
P. O. Box 1088
AREC, Lake Alfred, Florida 33850
Phone 813/956-1151

Packinghouse Newsletter No. 70 February 26, 1975

Key Word Index 2-Aminobutane, Benlate, Canada, Decay Control, Diphenyl, Export, Packout, Residue Tolerances, SOPP, Thiabendazole.

PREHARVEST DISEASES LOWER PACKOUT

There have been some important changes made in the soon-to-be-published 1975 Florida Citrus Spray and Dust Schedule (Spray Program). These changes should help to reduce the severity of preharvest diseases such as melanose and scab and thereby help to improve fresh citrus fruit's external quality, packout and profits. Because of today's economic situation, growers are tending to reduce the number of sprays applied to citrus groves, even in those groves intended for fresh market fruit. This could lead to even poorer packouts than in the past, thereby reducing profit margins.

A wise plan would be to designate certain groves for fresh fruit production and to treat them as such throughout the year.

Melanose is of significant economic importance only on citrus grown for the fresh fruit market. It is more frequently a problem on grapefruit than on other varieties. The 1975 Spray Program changes the recommendation for timing of copper fungicides for melanose to the following:

> "Sometimes a single postbloom spray will provide sufficient control, but to assure protection throughout the period of fruit susceptibility, two sprays may be required. Maximum protection from a single spray is generally obtained if it is applied about 4 weeks after petal-fall. Better results are assured by applying one spray 2 to 3 weeks after petal-fall and a second spray 2 to 3 weeks later."

Scab affects Temples, Murcotts, lemons, grapefruit and some tangelos. It is particularly severe on the crop of Temples that is currently being harvested. In 1974 the bloom extended over an unusually long period. When the bloom behaves like this, 2 or more sprays are usually essential for effective scab control. The 1975 bloom period could well be similar to that for 1974. The 1975 Spray Program says:

> "Difolatan or Benlate sprays, correctly timed, are usually more effective than schedules of copper fungicides at 3 to 4 lb of copper (metallic) per 500 gal or ferbam 95% wettable powder at 6 lb per 500 gal, applied dormant and again at 2/3 petal-fall."

"Difolatan 4F at 4 to 5 gal per 500 gal can only be applied when the trees are dormant and, even then, only if the fruit has been harvested. A single spray of Difolatan applied just before growth commences can be sufficient in itself for scab control. However, if the delay between application and bloom exceeds 6 to 8 weeks, a spray of copper, ferbam or, preferably, Benlate should be applied at bloom, particularly in groves that have a severe scab history."

"Benlate at 1.0 to 1.5 lb per 500 gal is most effective when applied shortly before fruit set. A dormant spray applied just before growth commences can assist scab control but should not on its own be relied upon to provide satisfactory control."

Risk of damage to fruit and young leaves precludes the safe use of Difolatan after growth commences. This material does, however, have important usage as a dormant spray, provided the previous crop has been harvested. If you have an early bloom and Difolatan might damage new growth, use Benlate in February and again 4 to 6 weeks later. Unfortunately, the more critical Benlate spray is usually the later one, so that the grower or production manager must commit to two scab sprays before applying the early one. The aim is to apply Benlate shortly before fruit set. If applied too early, there will be insufficient residual effect to protect the later set fruit.

Each grove must be evaluated for scab before deciding on the best spray program. Such factors as the scab pressure and history, and time and duration of bloom will influence the program.

Cooperation between production managers and packinghouse managers is essential to determine if additional sprays will increase grower profits. The use of partial budgeting would be an aid in determining if the added cost of a spray will more than pay for itself. Two points worth remembering: timing is critical for the effectiveness of these sprays, and fresh fruit groves should be segregated for everything (spray programs, cultural practices, harvesting, bookkeeping, marketing, etc.).

Will Wardowski
Extension Service

Jack Whiteside
University of Florida

Bill Grierson
University of Florida
AREC, Lake Alfred

CANADIAN BENOMYL TOLERANCES

Dear Dr. Wardowski: January 29, 1975

Re: Benomyl Fungicide

"...We have now recommended that the Food and Drug Regulations be amended to include a 10 ppm tolerance on citrus fruits to cover possible residues of benomyl and its metabolite methyl 2-benzimidazolecarbamate."

"At the time of writing, therefore, no tolerance has been established in Canada to cover residues of benomyl on citrus fruit. We expect that the recommendation for the establishment of a 10 ppm tolerance level will be finally considered and may be written into law during the next few months...."

Dr. A. B. Morrison, Asst. Deputy Minister
Health Protection Branch, Ottawa, Ontario

CITRUS POSTHARVEST FUNGICIDE TOLERANCES

Country	Diphenyl[z]	SOPP[z]	TBZ[z]	Benlate[z]	2AB[z]
	ppm				
USA	110	10	10	10	30
Canada	110	10	10	0[y]	0
Europe	70	12	6[x]	--[w]	0
Japan	70	0	0	0	0

z Diphenyl = biphenyl. SOPP = sodium o-phenylphenate. TBZ = thiabendazole. Benlate = benomyl. 2AB = 2-amino-butane.

y See letter below.

x Italy: 3 ppm if used with diphenyl or SOPP. Finland and Netherlands: 10 ppm.

w Belgium: 0 ppm (request being considered).
Denmark, Finland, Norway and Sweden: 0 ppm, expect to follow United Nations WHO/FAO recommendations.
England: understood to be covered under Food Additive Laws without specific tolerance.
France: 1.5 ppm.
Italy: 0 ppm.
Netherlands: 5 ppm.
Switzerland: 7 ppm.
West Germany: 10 ppm.

Postharvest fungicide tolerances for citrus used in various countries are listed as ppm (parts per million) in the above table. As changes occur in these tolerances, they will be listed in future issues of this newsletter. This list is a revision of one that appeared in Packinghouse Newsletter No. 65.

A tip of the hat goes to Robert Fitzsimmonds, Foreign Agricultural Service, USDA, Washington, DC for locating and defining some of the more elusive tolerances.

Will Wardowski
Extension Service
Lake Alfred

Ben Hillebrand
USDA/ARS
Rotterdam
The Netherlands

AVAILABLE PUBLICATIONS

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

"Florida Citrus Spray and Dust Schedule 1975" Circular 393-A. February, 1975.

"Postharvest Decay Control Recommendations for Fresh Citrus Fruit" by A. A. McCornack and W. F. Wardowski. Extension Circular 359. March, 1972.

Available from B. L. Wild, Gosford Horticultural Postharvest Laboratory, (formely Citrus Wastage Research Laboratory) P. O. Box 355, Gosford, N.S.W., Australia 2250

"Controlling Post-harvest Mould in Citrus" by L. E. Rippon and B. L. Wild. Agricultural Gazette of N.S.W. Vol. 85(3). June, 1973.

"Comparison of Thiabendazole and Benomyl as Post-harvest Fungicides for Wastage Control in Long Term Lemon Storage" by B. L. Wild, L. E. Rippon and F. A. Seberry. Aust. Jour. of Exp. Agr. and Animal Husbandry. Vol. 15:103-111. February, 1975.

"Pathogen Resistance to Citrus Postharvest Fungicides" by B. L. Wild. Food Technology in Australia. Vol. 26(11):505-508. November, 1974.

W. Wardowski, Editor
Extension Horticulturist

This newsletter is published monthly at a cost of $81.85, or 8.2 cents per copy, to give the latest news to the packinghouse industry.