Packinghouse Newsletter

Harvesting and Handling Section
University of Florida
Citrus Experiment Station
P.O. Box 1083
Lake Alfred, Florida, 33850

(Complimentary to members of the Florida Fresh Citrus Shippers Association. Others wishing to receive this newsletter, send a dozen stamped preaddressed envelopes to the above address).
Harvesting and Handling Section

PACKINGHOUSE NEWSLETTER

PEEL INJURY OF ORANGES

IMPORTANT WARNING

Dow-hex, or any other Dowicide formulation used as a wash, flood, or dip MUST be thoroughly rinsed from the fruit before any other packinghouse treatment. Do not worry about the possibility of over-rinsing. This fungicide forms an insoluble precipitate in the cracks, plugs, and minute scratches where it is needed.

It is particularly important that the contamination of the color-add emulsion with Dowicide should be at a minimum. The color-add emulsion and o-phenylphenol (Dowicide) are not compatible. When the fungicide applicator is in the packing line just before the color-add tank, the rinse must be efficient. Three rows of wide angle nozzles on staggered centers are not excessive.

We hope that frozen fruit separators are not needed this season. But if they are, be careful not to get Dowicide into an oil emulsion separator. There is no danger with water-type separators.

PLEASE NOTE: This is not a change in the recommended Dow-hex procedure. This only emphasizes the importance of the instruction to rinse properly. A number of packinghouses who have followed the recommended procedures for 10 years have not encountered any trouble at all—but they have good rinses.

PUBLICATIONS OF INTEREST

Publications that may be of interest to some readers are listed below. Please note that these are not all available from the Citrus Experiment Station, but we do indicate where to send for them.

1. "Degreening Response of Color-Sorted Florida Oranges," ARS 51-14, October 1967, by Otto L. Jahn, Gilbert E. Yost, and James Soule. This publication is available either from the USDA, in Orlando or Gainesville, and from Dr. J. Soule, Department of Fruit Crops, University of Florida, Gainesville, 32601.


and

A small table of justifiable investment amounts, developed according to the foregoing explanation, is shown.

### APPROPRIATE JUSTIFIABLE EQUIPMENT INVESTMENT WITH RESPECT TO SPECIFIED ANNUAL LABOR SAVINGS, INTEREST RATE, AND PERIOD OF TIME

<table>
<thead>
<tr>
<th>No. Wkrs.</th>
<th>Annual Saving in Labor Dollars</th>
<th>Interest at 6%</th>
<th>Interest at 10%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>5 yr.</td>
<td>8 yr.</td>
</tr>
<tr>
<td>2</td>
<td>3,584</td>
<td>15,097</td>
<td>22,255</td>
</tr>
<tr>
<td>3</td>
<td>5,376</td>
<td>22,645</td>
<td>33,383</td>
</tr>
<tr>
<td>4</td>
<td>7,168</td>
<td>30,194</td>
<td>44,511</td>
</tr>
<tr>
<td>5</td>
<td>8,960</td>
<td>37,742</td>
<td>55,638</td>
</tr>
</tbody>
</table>

Capital-recovery factor<sup>3</sup> = (0.23740) (0.16104) (0.13587) = (0.26380) (0.18744) (0.16275)

<sup>2</sup> Based upon 32 weeks, of 40 hours, per year and hourly rate of $1.40.


PACKINGHOUSE MODERNIZATION

GUIDELINES FOR AMOUNT OF INVESTMENT FOR EQUIPMENT CHANGES

A vital part of the management function of a citrus firm, as with virtually all kinds of enterprises, is the continuing appraisal of a variety of situations in which present equipment may be replaced with more modern units. Decisions must come sooner or later. Always interwoven in the decision-making is the familiar question "will it pay?"

A detailed cost comparison for two or more alternatives is usually laborious and time consuming. Thus, a quickly accessible guideline with some sacrifice in accuracy, can be useful. In some cases, by preliminary use of such guidelines, it would be possible to eliminate some alternatives and give all attention to a thorough comparison of those left after the first "screening."

Given reasonably accurate labor savings per year, for example, management may have easy-to-use guidelines which are based upon capital recovery formulas. The information is presented in table form so that, for various interest rates and periods of time, management may see an amount which, in a screening stage, can be considered justifiable investment for the estimated savings from a possible change.

It must always be remembered that the formulas do not taken into account any expenses except depreciation and interest on the investment. Therefore, before final steps are taken, the net savings for given alternatives need to be calculated and comparisons made. In this, all significant items of operating and maintenance expense should be considered as well as taxes and insurance.

Prepared by Earl K. Bowman, Industrial Engineer, ARS, USDA for submission to Packinghouse Newsletter, Citrus Experiment Station, University of Florida.