

CITRUS MATURITY
AND
PACKINGHOUSE PROCEDURES

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Preface

Citrus is recognized as one of the world's 3 or 4 finest fruits being grown commercially and in dooryards in countries throughout the tropics and subtropics around the globe. Florida alone accounts for nearly a quarter of the total domestic and export trade. It is an immense industry in the state, with individual plantings ranging from a few to many thousands of acres (hectares) from which fruit are harvested during a 9 to 10 months' season, transported to a packinghouse or cannery, and shipped as fresh fruit or processed into a multitude of products. Citrus in Florida and other states and countries, supply indispensable vitamins and minerals as well as adding flavor, color and variety to the diet. Citrus worldwide sustains countless millions of people and is an important source of income to those concerned in growing, handling, packing, processing, transporting and marketing the fruit and their suppliers.

An undergraduate course in citrus maturity and packinghouse procedures has been taught in the Department of Fruit Crops and its predecessor, the Department of Horticulture, for 30 years. Countless alterations have been made in content in concert with changes in the industry. Emphasis has been placed throughout on the problems of fresh fruit handling, including the recognition that the postharvest behavior of fruit is dependent upon its past history from the time of flowering many months earlier. Close liason has been maintained with research workers in postharvest horticulture, particularly those at the Agricultural Research and Education Center Lake Alfred (former Citrus Experiment Station).

The basic format of the course was established many years ago in the form of lectures on fruit structure, composition and qualities, pre-harvest modifiers, packinghouse procedures and maturity and grade standards and laboratories to afford students firsthand knowledge of these. Notes from lectures were assembled into a manual in 1974 by the senior author, with minor revisions made in subsequent years.

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Preface (cont.)

The present version of Citrus Maturity and Packinghouse Procedures follows the same general pattern of its predecessor but has been completed with rearrangement of many sections. Dr. William Grierson, the outstanding world authority on citrus packinghouses, was induced to become a co-author in formal recognition of his past and present substantial contributions. Briefer coverage is given fruit qualities, with the bulk of the graphs on seasonal changes moved to the Appendix. The section on Packinghouse Procedures has been arranged to have individual chapters on physiology (Respiration-Humidity-Degreening-Refrigeration) and pathology (Postharvest Disorders and Their Controls) precede those on harvesting and handling, packinghouse procedures and future trends. Treatment of subjects incorporates the latest information and concepts. Many new tables, including a short glossary and conversions to metric, and figures have been added to supplement text material.

Citrus Maturity and Packinghouse Procedures is a "working tool" which will undergo continual change. Sincere thanks are given colleagues and students who have furnished invaluable counsel, criticism and cooperation in its preparation. Statements herein are the authors' own responsibility, with grateful acknowledgment of materials contributed by members of the Harvesting and Handling Section, AREC Lake Alfred, and others. Appreciation is also extended in fullest measure to secretaries and graduate and student assistants who have spent many laborious hours typing, editing, and correcting various portions of the manuscript.

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