

POSTHARVEST TECHNOLOGY OF KINNOW

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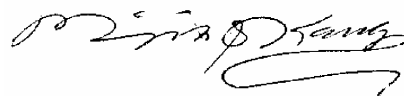
*“To my beloved
wife and son”*

FOREWORD

In India, substantial postharvest losses occur in fruits and vegetables. A reduction in these losses would lead to increased revenue and better nutrition. This publication provides some useful insights into postharvest practices used by Punjab growers and into growers' awareness about available scientific methods of postharvest handling of fruits and vegetables. The author has divided the subject matter into five chapters with appropriate headings. The introduction covers the status, and the rationale for doctoral research conducted by the author. The next chapter covers various techniques of enhancing shelf life of fruits and vegetables. The third chapter deals with mechanical handling of fruits and vegetables. The development and performance evaluation of developed prototype for cleaning, waxing, and grading of Kinnow is covered in the fourth chapter. The knowledge regarding the low-cost prototype for cleaning, waxing, and grading of Kinnow should prove beneficial for growers and entrepreneurs involved in postharvest handling of fruits. Another important aspect, i.e., quality characteristics of fruits, is covered in the last chapter that includes recent developments in the field of non-destructive methods of quality determination of fruits and vegetables.

This review publication should help in the dissemination of technology and knowledge to those who do not have access to relevant research journals. This book will not only be useful for researchers, but also for students and teachers in the field of postharvest handling of fruits and vegetables. The book covers almost all of the essential aspects of postharvest handling of fruits and vegetables.

I trust that this publication would serve as a source of information, for the intended audience, on postharvest handling of fruits and vegetables in Punjab as well as in rest of India.



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Dr. Amandeep Sharma

PREFACE

Fruits are good source of nutrition as they provide vitamins and minerals for proper growth of human beings. In our country, the postharvest losses in fruits are about 30 per cent. Such a huge losses are not only leading to less availability of nutritious food but also cause economic loss to the country and growers. Kinnow is an important fruit of Punjab state. Its proper handling in scientific manner is the need of the hour. Owing to its good taste juice content, this fruit has export potential.

The work on development of prototype for on-farm pre processing of Kinnow was taken to help the growers to minimise the postharvest losses and to add value at farm itself. This will help in reducing the number of handlings the fruit has to undergo prior to processing at the processing centres.

I took this opportunity to publish my Ph.D. dissertation work for the benefit of students, researchers and all those who are concerned with reducing the losses of fruits and vegetables.

This book introduces about Kinnow fruit and its present status of postharvest status in Punjab state and about the awareness of farmers regarding the post-harvest operations of Kinnow fruits. The second chapter contains mainly the review of different techniques for enhancement of she life of fruits and vegetables. The techniques such as controlled atmosphere, individual shrink wrapping and application of film coatings has been stressed upon. The third chapter is about the mechanical handling of fruits and vegetables. It includes the various operation which are carried out in a pack house, such as, dumping, cleaning,

degreening, waxing, surface drying and size grading. The fourth chapter deals with the development and evaluation of prototype. This chapter contains the information regarding the concept building and selection of the objectives of the dissertation work taken. This chapter contains the design and development, material estimation and fabrication methodology and also contain the performance evaluation of various parts of the prototype such as cleaning, waxing, surface drying and grading units. The most important part of quality characteristics can not be over looked in any study, so, the chapter five discusses the various quality parameters such and postharvest diseases, physiological disorders, post harvest insect problems and treatments, physical and chemical quality characteristics of Kinnow and the recent developments of non-destructives techniques of quality determination in fruits and vegetables. The bibliography contains all the sources, direct or indirect to acknowledge the help taken from various sources of information. If there is any portion that has been left without reference, this may be taken as if done just out of ignorance.

The author wants to admit that some part of the book may appear repetitive in nature but it was after considering all the technical aspects that the various contents has been placed in a logical sequence.

Over and above, feedback is solicited.

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