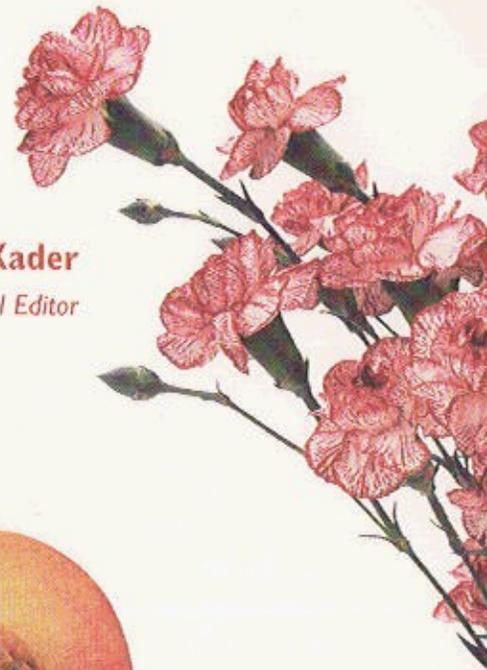


Third Edition

Adel A. Kader  
Technical Editor



# Postharvest Technology of Horticultural Crops



University of California  
Agriculture and Natural Resources  
Publication 3311

# Contents

	Preface.....	vii
<b>1</b>	Sources of Information Related to Postharvest Biology and Technology..... <i>Adel A. Kader</i>	1
<b>2</b>	The U.S. Fresh Produce Industry: An Industry in Transition..... <i>Roberta L. Cook</i>	5
<b>3</b>	Consumer Issues in Quality and Safety..... <i>Christine M. Bruhn</i>	31
<b>4</b>	Postharvest Biology and Technology: An Overview..... <i>Adel A. Kader</i>	39
<b>5</b>	Preharvest Factors Affecting Fruit and Vegetable Quality..... <i>Carlos H. Crisosto and Jeffrey P. Mitchell</i>	49
<b>6</b>	Maturation and Maturity Indices..... <i>Michael S. Reid</i>	55
<b>7</b>	Harvesting Systems..... <i>James F. Thompson</i>	63
<b>8</b>	Preparation for Fresh Market..... <i>James F. Thompson, Elizabeth J. Mitcham, and F. Gordon Mitchell</i>	67
<b>9</b>	Waste Management and Cull Utilization..... <i>James F. Thompson</i>	81
<b>10</b>	Packages for Horticultural Crops..... <i>James F. Thompson and F. Gordon Mitchell</i>	85
<b>11</b>	Cooling Horticultural Commodities..... <i>James F. Thompson, F. Gordon Mitchell, and Robert F. Kasmire</i>	97
<b>12</b>	Storage Systems..... <i>James F. Thompson</i>	113
<b>13</b>	Psychrometrics and Perishable Commodities..... <i>James F. Thompson</i>	129
<b>14</b>	Modified Atmospheres during Transport and Storage..... <i>Adel A. Kader</i>	135
<b>15</b>	Methods of Gas Mixing, Sampling, and Analysis..... <i>Adel A. Kader</i>	145
<b>16</b>	Ethylene in Postharvest Technology..... <i>Michael S. Reid</i>	149
<b>17</b>	Principles of Postharvest Pathology and Management of Decays of Edible Horticultural Crops..... <i>James E. Adaskaveg, Helga Förster, and Noel F. Sommer</i>	163
<b>18</b>	Postharvest Diseases of Selected Commodities..... <i>Noel F. Sommer, Robert J. Fortlage, and Donald C. Edwards</i>	197
<b>19</b>	Postharvest Treatments for Insect Control..... <i>Elizabeth J. Mitcham, F. Gordon Mitchell, Mary Lu Arpaia, and Adel A. Kader</i>	251
<b>20</b>	Transportation..... <i>James F. Thompson</i>	259
<b>21</b>	Handling at Destination Markets..... <i>James F. Thompson and Carlos H. Crisosto</i>	271
<b>22</b>	Quality and Safety Factors: Definition and Evaluation for Fresh Horticultural Crops..	279
	<i>Adel A. Kader</i>	
<b>23</b>	Standardization and Inspection of Fresh Fruits and Vegetables..... <i>Adel A. Kader</i>	287

<b>24</b>	Safety Factors .....	301
	<i>Linda J. Harris, Devon Zagory, and James R. Gorny</i>	
<b>25</b>	Postharvest Handling Systems: Ornamental Crops .....	315
	<i>Michael S. Reid</i>	
<b>26</b>	Postharvest Handling Systems: Fresh Herbs .....	327
	<i>Marita I. Cantwell and Michael S. Reid</i>	
<b>27</b>	Postharvest Handling Systems: Pome Fruits .....	333
	<i>Elizabeth J. Mitcham and F Gordon Mitchell</i>	
<b>28</b>	Postharvest Handling Systems: Stone Fruits .....	345
	I. Peach, Nectarine, and Plum.....	345
	<i>Carlos H. Crisosto and F Gordon Mitchell</i>	
	II. Apricots .....	351
	<i>Carlos H. Crisosto</i>	
	III. Sweet Cherry .....	353
	<i>Elizabeth J. Mitcham and Carlos H. Crisosto</i>	
<b>29</b>	Postharvest Handling Systems: Small Fruits .....	357
	I. Table Grapes.....	357
	<i>Carlos H. Crisosto and F Gordon Mitchell</i>	
	II. Strawberries and Cane Berries .....	364
	<i>Elizabeth J. Mitcham and F Gordon Mitchell</i>	
	III. Kiwifruit .....	371
	<i>Carlos H. Crisosto and F Gordon Mitchell</i>	
<b>30</b>	Postharvest Handling Systems: Subtropical Fruits .....	375
	<i>Adel A. Kader and Mary Lu Arpaia</i>	
<b>31</b>	Postharvest Handling Systems: Tropical Fruits .....	385
	<i>Adel A. Kader, Noel F Sommer, and Mary Lu Arpaia</i>	
<b>32</b>	Postharvest Handling Systems: Tree Nuts .....	399
	<i>Adel A. Kader and James E Thompson</i>	
<b>33</b>	Postharvest Handling Systems: Fruit Vegetables .....	407
	<i>Marita I. Cantwell and Robert F Kasmire</i>	
<b>34</b>	Postharvest Handling Systems: Flower, Leafy, and Stem Vegetables .....	423
	<i>Marita I. Cantwell and Robert F Kasmire</i>	
<b>35</b>	Postharvest Handling Systems: Underground Vegetables (Roots, Tubers, and Bulbs).....	435
	<i>Marita I. Cantwell and Robert F Kasmire</i>	
<b>36</b>	Postharvest Handling Systems: Fresh-Cut Fruits and Vegetables .....	445
	<i>Marita I. Cantwell and Trevor V. Suslow</i>	
<b>37</b>	Processing of Horticultural Crops .....	465
	<i>Diane M. Barrett</i>	
<b>38</b>	Making the Link: Extension of Postharvest Technology .....	481
	I. Identifying Scale-Appropriate Postharvest Technology .....	481
	<i>Lisa Kitinoja</i>	
	II. Extension Methods for Transferring Postharvest Technology .....	491
	<i>Lisa Kitinoja and Robert F Kasmire</i>	
	Appendix: Summary Table of Optimal Handling Conditions for Fresh Produce .....	511
	<i>Marita I. Cantwell</i>	
	Index .....	519