Table of Contents

Contributors	vii
Chapter 1 Trends in Fresh Fruit and Vegetable Consumption and Their Nutritional Implications	
nutrients—percentages from fruits and vegetables; nutrient losses; shifts in sources; national consump- tion trends; USDA surveys Robert L. Rizek, Daniel A. Swope and Betty Peterkin	1
Chapter 2 Fruits and Vegetables: USDA Research for Tables of Food Composition	
history of tables; deriving representative values; analytical methods; revision and expansion of data Bernice K. Watt, Elizabeth W. Murphy and Susan E. Gebhardt	29
Chapter 3 Nutritive Losses in the Home Storage and Preparation of Raw Fruits and Vegetables	
limitations of available data; stages of nutrient losses; review of literature—losses in storage, advance preparation, cooking, and holding	E 1
Catharina Y.W. Ang and G.E. Livingston	51

Chapter 4 Semiprocessed Fruit and Vegetable Products	
temperature-humidity control; ascorbic acid—its properties and retention; segmenting and juicing; cabbage—cooling rate and bacterial growth; sulfite dips Margaret Meinken	65
Chapter 5 Influence of Agronomic Practices on Nutritional Values	
soil development (regional differences); fertilization; lead accumulation; irrigation; pesticides; organic farming	81
Chapter 6 Varietal Influence on Nutritional Value	
major crops—their relative nutritional values; carotene concentrations; vitamin C; thiamin, riboflavin and niacin; minerals	87
Chapter 7 The Influence of Harvest Time on Nutritional Value	
effects of maturation of various crops on: protein, carbohydrate, lipids, vitamins and minerals Tung-Ching Lee and C. O. Chichester	111
Chapter 8 The Technology of Handling Fresh Fruits and Vegetables	
harvest; cooling; packing; containers; prepackaging; transport; terminal markets; delivery; retail; handling by consumers Dale L. Anderson	121

regulators

Chapter 9 The Influence of Storage, Transportation and Marketing Conditions on Composition and Nutritional Values of Fruits and Vegetables	
ascorbic acid; folic acid; thiamin and riboflavin; carotene; carbohydrates; nitrates and nitrites; new storage techniques P. H. Heinze	133
Chapter 10 The Prospects for Genetic Engineering to Improve Nutritional Values	
factors determining cultivar development; pre- determination of carbohydrate; ascorbic acid synthe- sis; protein synthesis; genetic studies of caroten- oids W. H. Gabelman	147
Chapter 11 Genetic Engineering to Remove Undesirable Compounds and Unattractive Characteristics	
natural toxicants; nitrates; neuro-toxins and lathy- rogens; glycoalkaloids; oxalates; flatulence factor; low-digestible starch; bitter principle August E. Kehr	157
Chapter 12 The Economics of Genetic Engineering	
costs of production in terms of nutritive value; costs of fortification; economic justification for genetic improvements?; considering the alternatives and developing priorities Edwin A. Crosby	169
Chapter 13 Vitamin Induction in Fruits and Vegetables with Bio-	

determining genetic capacity; chemica	l stimuli;
tree crops; provitamin A in citrus	
V.P. Maier and H. Yokoyama	177

Appendix