

Contents

Section I Carotenoid Sources and Metabolism

1 Food Sources of Carotenoids	3
Sara A. Arscott	
2 Carrots of Various Colors.....	21
Samantha Schmaelzle and Sherry A. Tanumihardjo	
3 Carotenoid Metabolism and Enzymology.....	29
Igor O. Shmarakov, Jason J. Yuen, and William S. Blaner	
4 Reactive Oxygen and Nitrogen Species in Biological Systems: Reactions and Regulation by Carotenoids.....	57
John T. Landrum	
5 Kinetic Studies with Carotenoids	103
Guangwen Tang	
6 Carotenoid Bioavailability: Influence of Dietary Lipid and Fiber	111
Shellen R. Goltz and Mario G. Ferruzzi	
7 Host Factors That Affect Carotenoid Metabolism.....	129
Georg Lietz	
8 Host Factors: Gender and Body Composition	141
Joseph Dever	

Section II Carotenoids and Human Health

9 Carotenoid Metabolism and Health in Pregnancy and Lactation.....	153
Kerry Schulze and Parul Christian	
10 Carotenoids in Early Life	167
Xiaoming Gong and Lewis P. Rubin	
11 Provitamin A Carotenoids and Cancer Prevention.....	181
Benchun Miao and Xiang-Dong Wang	
12 Lycopene and Cancer	193
Nikki Ford and John W. Erdman Jr.	

13 Lutein and Zeaxanthin and Eye Disease	215
Rohini Vishwanathan and Elizabeth J. Johnson	
14 Carotenoids and Bone Health	237
Sherry A. Tanumihardjo and Neil Binkley	
Section III International Perspectives	
15 Provitamin A Carotenoids as a Dietary Source of Vitamin A	249
Marjorie J. Haskell	
16 Provitamin A Carotenoids and Immune Function	261
Charles B. Stephensen	
17 Biofortification of Maize with Provitamin A Carotenoids	271
Kevin Pixley, Natalia Palacios Rojas, Raman Babu, Raphael Mutale, Rebecca Surles, and Eliab Simpungwe	
18 Horticultural Crops as a Source of Carotenoids	293
Philipp W. Simon, Megan J. Bowman, and Sherry A. Tanumihardjo	
19 Orange Sweetpotato as a Staple or Complementary Food	303
Paul van Jaarsveld and Mieke Faber	
20 International Efforts to Eradicate Vitamin A Deficiency	317
Sherry A. Tanumihardjo and Harold C. Furr	
Index	325



<http://www.springer.com/978-1-62703-203-2>

Carotenoids and Human Health

Tanumihardjo, S.A. (Ed.)

2013, XXIII, 331 p. 58 illus., 30 illus. in color.,

ISBN: 978-1-62703-203-2

A product of Humana Press