

Preface

Beyond the provitamin A activity of some carotenoids and adding splashes of color to the world that we live in, carotenoids are still not considered “nutrients”. Nonetheless, carotenoids are receiving increased attention as a group of phytochemicals important for optimal health. Vitamin A deficiency, particularly marginal status, continues to plague much of the world. Dietary carotenoids are a significant source of this vitamin and plant-based diets are consumed by populations most at-risk for this deficiency. Providing enhanced crops through agricultural approaches may decrease the prevalence of vitamin A deficiency if widely adopted. The over-arching goal of this book is to convince the reader that carotenoids can contribute to overall health and well-being in addition to their well-known vitamin A function.

The inspiration for *Carotenoids and Human Health* was to provide health-care and nutrition professionals and medical, graduate, and senior undergraduate students with a resource of up-to-date information on carotenoids. The different sections of the book complement each other and provide distinct areas to be used for teaching. The first section, “Carotenoid sources and metabolism”, provides essential background for all readers on dietary sources of carotenoids and advanced chapters on antioxidant function, metabolism, and bioavailability that can be used in graduate-level instruction. The second section, “Carotenoids and human health”, may be used by practitioners and for senior undergraduate, graduate, and medical school-level courses on the importance of carotenoids in human health and development. This section contains two chapters on pregnancy, lactation, and early life; two chapters on carotenoids and cancer; and two chapters on links of specific carotenoids to eye and bone health. Health-care and nutrition professionals will find this section most informative as they advise patients and clients. Finally, the third section, “International perspectives”, is meant for courses on vitamin A and global health by emphasizing the importance of plant-based foods as sources of provitamin A carotenoids. The first two chapters are broad-based and the next three chapters are more crop-specific in an effort to show linkages between agriculture and vitamin A nutrition. The final chapter of this book provides a brief overview of methods to alleviate vitamin A deficiency and reviews some of the organizations that are dedicated to this cause.

In developing the content of this book, international representation was considered key to the success of the volume. In addition to internationally oriented researchers within the US, representations from Africa, Asia, Europe, and Mexico are among the authors. It is hoped that this book will ignite scientists, practitioners, and students to evaluate their work and endeavors in the scheme of global public health. Although carotenoids are not currently considered essential nutrients, as we move from prevention of nutrient deficiency to supporting optimal human health and prevention of disease, evidence presented in this book should compel the reader to contemplate what truly defines a nutrient.

Madison, WI, USA

Sherry A. Tanumihardjo



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