Wheat Antioxidants contains valuable and comprehensive information on many aspects of the antioxidant properties in what is claimed to be the world's most popular food crop, wheat. Editor and also an author, Dr. Liangli Yu and other leading agriculture experts shed new light on wheat antioxidants and their beneficial nutritional effects which would impact millions of people with cardiovascular disease and certain types of cancer.

Clearly organized, this book includes 16 chapters, a list of contributing experts from the United States and Canada, and an index. It is filled with accurate chemical structures, graphs, images, analytical results, and statistics of wheat antioxidants. The ingredient content and activities of the wheat antioxidants in food formulation and processing are thoroughly demonstrated and each chapter is clearly introduced, summarized, and concluded for discussion.

Chapter 1 provides an overview and perspective on wheat antioxidants and serves as an introduction to the book. The following three chapters cover topics such as antioxidant properties of grain and its fractions; effects of genotype, environment, and genotype-environment interaction on the antioxidant properties of wheat; and carotenoid, tocopherol, lignan, flavonoid, and phytosterol compositions of wheat grain and its fractions. Chapter 5 focuses on antioxidant properties of wheat phenolic acids. Chapter 6 is devoted to the effects of postharvest treatment, food formulation, and processing conditions on wheat antioxidant properties. Chapter 7 discusses antioxidant properties of wheat-based breakfast foods. Chapter 8 covers the effects of extraction method and conditions on wheat antioxidant activity estimation. Chapter 9, the longest in the book, introduces 11 antioxidant activity estimation methods of wheat and wheat-based foods. The advantages and limitations of each method are presented. Chapter 10 explores the application of Electron Spin Resonance in wheat antioxidant determination. Chapter 11 presents chemical analysis of tocopherols and carotenoids in wheat materials, using liquid chromatography-mass spectrometry technology. Chapter 12 includes further discussion on qualification of phenolic acids in wheat and wheat-based products (covered to some degree in Chapter 1). Chapters 13, 14, and 15 deal with the effects of wheat on normal intestines, wheat antioxidants and cholesterol metabolism, and wheat antioxidant bioavailability. The last chapter discusses aspects of wheat lignans and their promising cancer preventive agents.

Edited by Dr. Liangli Yu and written by Dr. Yu and other experts, Wheat Antioxidants explores multidisciplinary aspects of the antioxidant properties of wheat about which cereal chemists, food processors and technologists, nutritionists, agricultural educators and researchers should be more concerned. It reflects the growing interest in taking daily natural functional foods, such as wheat, in order to prevent coronary heart disease and cancer. Based on the professional level and specialized knowledge revealed in the book, it is highly recommended for agricultural scientists and nutrition educators, as well as academic libraries with agriculture collections and agriculture-related engineering libraries.