formly well written. The figures were of high quality and the editing job was masterful. Whereas many topics were covered in multiple chapters of the text, they were generally discussed from different perspectives, making the information complementary, rather than redundant. The text should be understandable to a broad audience and will be an invaluable resource in graduate courses. My only quibble concerns the rationale for placement of many of the chapters into a given section, which seemed to me rather arbitrary in many cases. Considered overall, I strongly recommend this text as a paradigm of an integrated approach to tackle an important, multidisciplinary topic in crop science.

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Wheat breeding has long been considered as much art as science. This publication is an admirable attempt to complement the art with physiological concepts and methods. Its intended audience is breeders in developing countries, but all wheat scientists will find it a useful compilation of principles and practices.

The 52 authors include wheat scientists at CIMMYT and many national programs around the world. They are all recognized authorities in their subjects. Their contributions are thorough, well written, and nicely illustrated.

The text is divided into three broad areas: General Considerations in Physiological Breeding, Breeding for Adaptation to Environmental Factors, and Breeding for Nutritional and Soil Factors. Each section contains five to eight chapters. The chapters generally begin with a statement of the principles followed by a description of the various procedures.

The section, General Considerations in Physiological Breeding, addresses the need and evaluation for physiological criteria, genetic resources for improving traits, the genetic basis of physiological traits, managing field trials, some modern methods, and the economics of breeding for physiological traits. All of the chapters are highly informative. The chapter on genetic basis, for instance, covers the subject from the structure of DNA to use of molecular markers, and the one on economics contains benefit/cost analyses that should interest all wheat scientists.

Breeding for Adaptation to Environmental Factors properly recognizes that much of the world’s wheat is produced under less-than-ideal conditions. The section contains chapters on economics contains benefit/cost analyses that should interest all wheat scientists.


This book, as the title states, is an updated and expanded edition of a 1995 book with a similar title and theme. The first thing that may strike the reader of the volume is the physical size of this volume. Although the second edition is a few pages shorter than the original (973 vs. 1003 pages), the print size was reduced in this revised edition. The expanded text is to be presented in a similar number of pages.

In revising the book, the editor and authors have rearranged the sections, updated almost all chapters, and added new material. In reading the chapters and comparing passages between the two editions, this claim may seem an exaggeration, but rest assured that a great quantity of new material and information was added. In some cases, the number of chapters that occur in both editions have also changed.