BOOK REVIEWS


Seeds continue to play an essential role in crop establishment and improvement as well as providing a source of food, feed, and fiber for the world population. Seed germplasm constitutes the evolutionary continuum of the plant species and the seed unit provides the biological delivery system for improved crop cultivars developed by conventional and/or transgenic plant breeding methods. This second edition of Seeds Handbook is intended to present basic information and an update of all areas of seed biology, production, and processing. The book is designed to serve as a resource for upper-level undergraduate and graduate students and a reference for researchers, planners, government agencies, and others in the seed industry. This revised edition attempts to provide a global overview of many areas of seed biology and technology.

This book is divided into four sections, with the first three section titles “Seed Biology,” “Seed Production,” and “Seed Processing and Storage Technology,” the same as in the first edition; however, a fourth section has been added and is entitled “Newer Seed Biotechnologies.” The seed biology section provides two very general chapters on seed morphology and development and seed dormancy, which are essentially repeats of the first edition with few new references. However, the last two chapters of this section entitled “Seed Germination” and “Seed Viability and Longevity” provide several new research references and a more comprehensive review of the physiology of seed germination and viability. The “Seed Production” section presents practical methods for producing seeds for over 80 major and minor agronomic and horticultural crop species in eight chapters. Although this section provides few new references compared with the first edition, it is the largest and most informative contribution in the handbook. The “Vegetable Crop” chapter is an excellent review of seed production for a wide variety of vegetable crop species and relates to seed production in both developed and third world countries. The third section of the handbook (“Seed Processing and Storage Technology”) reviews the various aspects of seed conditioning as well as seed marketing, testing, certification and legislation. Although this section relies heavily on references from other text books, it provides a good overview of the principles of seed drying, cleaning, and treatment.

The fourth and final section of the handbook is entitled “Newer Seed Biotechnologies” and provides five new chapters and one revised chapter (“Synthetic Seeds”) from the first edition. The first chapter attempts to describe the development of the “Seed-Production Industry” internationally but fails to describe the current issues of GMO seed production and the major influence of multinational seed companies. The chapter entitled “Synthetic Seed Biotechnology” is essential for a complete handbook. Although the chapter provides a good general reference on seeds, which may be a valuable resource to the international seed industry, it often fails to reach the scientific aspects of developing GM plants. In the preface, the author often relies on previously published books of seed technology, science, or production, rather than papers from refereed journals. The book also contains typographical errors (spelling, sentence structure), and the author often relies on previously published books of seed technology, science, or production, rather than papers from refereed journals.


Since their creation, genetically modified foods have been a matter of controversy around the world. In the maze of information available, it is difficult to distinguish between hand and perceptions, assumptions, or politics. Despite the fact that GM plants have met with strong resistance, an argument is made in this book that change is nothing new; it was initially experienced in response to the seed industry and possible applications of Synseeds in the attempt to explain how GM plants can help alleviate or deal with this danger. It is somewhat less clear how the authors interpret this vast topic completely in one short chapter, especially in the “Seed Biology and Seed Production” sections. This revised volume of the Seeds Handbook provides a good general reference on seeds, which may be a valuable textbook for undergraduate or graduate level courses in seed biology.