
Anyone interested in maize (Zea mays L.) genetics and breeding should have this book in his or her personal library. It is not a comprehensive rendition of 20th century maize genetics and breeding, but focuses on major contributors, with an academic pedigree tracing back to E.M. East at the Bussey Institute of Harvard University. During the period 1909 to 1938, East mentored many maize notables as L.J. Stadler, P.C. Mangelsdorf, Edgar Anderson, D.F. Jones, R.A. Brink, and R.A. Emerson. Each in turn had their own illustrious students, but especially Emerson at Cornell University whose “legendary” group, the topic of Chapter 6, included E.W. Lindstrom, Marcus Rhodes, E.G. Anderson, George Sprague, and two Nobel Prize awardees: Barbara McClintock and George Beadle.

The book is divided into three parts. Part A, “Development of Maize Genetics and Breeding”, is authored by Peter A. Peterson. Peterson has spent half a century in maize genetics and has been an astute participant and keen observer in the discipline as it has developed from a relatively small, tightly knit, interactive community of researchers, frequently with a common professional heritage, to today’s hundreds of scientists working in large industrial settings, with their inherent restrictions on sharing of research information, and a small public sector often in competition for limited grant funds. Part A, much of which is anecdotal, allows the reader to share Peterson’s insights and perspectives of this dynamic century of maize genetics and breeding, and the legacy left by earlier generations of researchers. The 18 chapters of Part A are readable and short (14 of four pages or less). The first four chapters provide a very brief background on early maize genetics, relevant genetic milestones, the maize plant, and the development of hybrid corn. These are followed by chapters on the Bussey Institute and the Emerson group at Cornell. Chapters 7 through 11 present additional comments about the 24 maize geneticists and breeders whose biographies were presented originally in issues of Maydica dedicated to them and which are reprinted in Part B of this book. The remaining chapters of Part A cover such diverse topics as noteworthy Italian maize geneticists (Chapter 12); development of an understanding of the anthocyanin pathway (Chapter 13); the Allerton maize genetics meetings (Chapter 14); and essays on the maize community (Chapter 15), the maize academic pedigree tree (Chapter 16 and the book’s focus), history of some gene complexes (Chapter 17), and progress in science (Chapter 18).

Part B, “The Commemorative Issues of Maydica”, reprints biographies of 24 maize geneticists and breeders that were originally presented in issues of Maydica dedicated to them. The biographies were written by colleagues and former students and therefore vary in style, depth, and approach. The first commemorative issue in 1977 honored William A. Ruston. Ruston was followed by Charles L. Burnham (1979), but Hooker belong to the E.M. East professional group, and Ottaviano (Italian) and Walden (Canadian) are foreign Americans. Both Hooker and Ottaviano were posthumously for their contributions. A postscript of each biography to update the reader about the time of book preparation would be beneficial.

Part C, “Recent Developments in the Genetics and Molecular Biology of Maize Mutants”, was coauthored by A. Bianchi, F. Salamini with the objective of “the nature and variety of scientific discoveries emerging from the work of the maize scholars honored in the monographs”. Their approach is to provide a perspective to various research areas and to include laboratories, past and present, involved in research less reader-friendly than Parts A and B, but concise, current review of each research area. The chapters, “Gene Cloning” (Chapter 43), cover maize genetics, including genetic control of zein protein organization of zein genes, and the genetics of the pathways of starch and anthocyanin (including pigments). Transposable elements are the subject of “Visiting the Gene, Genome” (Chapter 44), and in Chapter 45, “Genetics and Fingerprinting”, molecular mapping is reviewed. Technology” (Chapter 46) the work of researchers involved in tissue culture, transformation, biotic and abiotic stresses, and male sterility is noted. The concluding “Maize Development” (Chapter 47), covers growth on the origin of maize, clonal analysis, development of plant hormones, and seedling mutants.

There are a few miscues in the book, particularly in Part A, that should have been picked up in proofreading. The most glaring is the inclusion of C.W. Stuber’s name in the subheading of Chapter 8, although no mention is made of Stuber’s notable achievements in this chapter or elsewhere in the book. In the same chapter, D.S. Robertson is listed in the subheading, but his biography is included in the text; however, his biography is in Chapter 10 and 11, but remarks about him are in only one.

The book is primarily about American maize geneticists and breeders. It is interesting therefore that additionally on Italian scientists (Chapter 12), while no mention is made of Italian scientists of at least equal stature are not included. However, Maydica is published in Italy, and Bianchi are its editors.

Most readers will find Parts A and B an interesting read or browse. Part C contains a wealth of information laboratories involved in maize genetics research and is a useful reference for readers familiarizing themselves with research areas.