

Book Reviews

Monografia dei Portinesti dei Fruttiferi (Book on Fruit Tree Rootstocks). Carlo Fideghelli and Filberto Loretto (eds.). 2009. Agricultural Research Council, Via Nazionale 82 - 00184 Rome. 239 p.

In recent years rootstocks are playing an increasingly important role in modern tree fruit culture. This action is particularly true as trees are planted at much higher densities and they are managed more intensively. Control of vegetative growth and productivity through rootstock selection plays an important role in tree management. There are few places where students, growers, extension personnel, and researchers can get a comprehensive description of rootstocks for temperate fruit crops. This compendium of rootstocks is an excellent resource for this information. The book contains an eclectic collection of seedlings, hybrids, and clonal selections of popular rootstocks.

All rootstock descriptions are presented in Italian and English. The descriptions are authored by good and knowledgeable pomologists in Italy. The rootstock descriptions are grouped into sections including: stone fruit, seedling, plum, peach x almond hybrids, other hybrids, and cherry. Many, but not all, of the currently used rootstocks are described in this book.

The description of each rootstock follows a very similar format. A colored photograph or drawing of a vegetative shoot and dormant one-year-old wood accompanies each rootstock. The quality of these illustrations is very good. For most peach and almond rootstocks, flowers and seeds also are shown. The origin and a brief history of each selection are provided. The dwarfing characteristics and descriptions of foliated and dormant shoot and root system are provided. Propagation characteristics such as ease of rooting, stratification requirements, seed germination success, preferred methods of propagation, and suggested times for most effective vegetative propagation are given. Sensitivity to abiotic and biotic stress is mentioned. The performance of grafted trees is critiqued. The species for which the rootstock can be used is identified. Each rootstock description concludes with an overall summary and evaluation of each rootstock including suggested planting density.

The rootstock information presented should be most useful to extension personnel, growers, and research staff. It could also be a valuable reference for the identification of rootstocks and a resource to review quickly the attributes and shortcomings of potential choices when making a selection of rootstocks for propagation of fruit trees. The authors should be contacted for availability of the publication at Via Fioranello, 52, 00134, Rome.

DUANE W. GREENE
Plant, Soil, and Insect Sciences
University of Massachusetts, Amherst

Seeds, Sex, and Civilization: How the Hidden Life of Plants Has Shaped our World. Peter Thompson and Stephen Harris. 2010. Thames & Hudson, New York. 280 p. \$29.95. ISBN 9780500251706.

This book includes nine chapters with information on: 1) the origins of agriculture; 2) seed science from Aristotle to Darwin; 3) seed formation from pollination to seed maturity; 4) strategies for survival, including seed longevity, dormancy, and germination; 5) environmental control of germination; 6) discoveries regarding germination by both amateur and professional scientists; 7) plant exploration, breeding programs, and the positive and negative effects of the Green Revolution; 8) germplasm preservation in seed banks and clonal repositories, uses of genes from non-commercial genotypes, and the pros and cons of genetically modified crops; and 9) future prospects for solving the problems of feeding a growing world population, given global warming, environmental degradation, declining diversity in crop species, and diminishing supplies of energy. The book contains nearly 50 excellent photographic illustrations with most in color, suggestions for further reading, and an index.

Information is included on a wide range of species, most of which are identified by their common names. This presentation can be confusing, as British common names do not always agree with American names. However, inclusion of Latin names would have been distracting, given the number of species mentioned, and common and Latin names are provided in the index. One minor criticism is that some statements border on the teleological; for example, "Most [flowers] produce pollen profusely to ensure that a tiny proportion is carried by insects or other pollinators to a receptive stigma."

Thompson, former Head of Plant Physiology at the Kew Royal Botanic Garden in England, and a leader in establishing seed banks, weaves into the text the contributions of numerous pioneers in seed collection, plant breeding, and other aspects of research, including Gregor Mendel, Thomas Knight, N.I. Vavilov, Lewis Knudson, and Norman Borlaug, and describes how their observations and research led to a better understanding of seed physiology and plant biology in general. In addition, he provides a personal touch in describing his experiences in collecting seeds in diverse areas of the world.

Harris, Druce Curator of the Oxford University Herbaria, covers future prospects in the concluding chapter, Thompson having died in 2006. Harris discusses whether food production can keep up with the increase in world population, given the problems of global warming, and the loss of farmland to urbanization, erosion, and desertification. He summarizes the role of the research described in previous chapters in solving these problems, and concludes with the hope that "we will make our choices rationally and equitably for the benefit of all mankind, rather than

for the political, social or economic benefit of the few."

FRANK G. DENNIS
Department of Horticulture
Michigan State University
East Lansing

Underutilized and Underexploited Horticultural Crops, Vol. 5. K.V. Peter (ed.). 2010. New India Publishing Agency, Pitam Pura, New Delhi, India. 473 p. Hardcover. \$130.00. ISBN: 978-93-80235-28-8.

Dr. Prem Nath, formerly Assistant Director General of the United Nations Food and Agriculture Organization, succinctly provides the rationale for this book in the foreword. He states that, globally, there is concern for diminishing nutritional security and that land under agriculture is dwindling, water for irrigation is becoming scarce and costly, and availability of labor is getting smaller. Hence, the need for new crops and alternate sources of nutrition is getting attention. Dr. Nath notes further that under the Consultative Group on International Agricultural Research, an all-inclusive Future Crops International has been established to study underexploited and underutilized crops. In this group of plants, horticultural crops, especially vegetables, fruits, ornamentals, medicinal plants, and aromatic plants, are unique. Dr. Nath states also that many plants are wild weeds in one part of the world but are edible and consumed in another part. The foreword notes also that a few underutilized plants are used for phytosanitation and phytoremediation and that some are getting attention as raw materials for biofuel production.

The newest volume in this series follows a pattern similar to that of previous books. There are five chapters in the Vegetables and Tubers section, eight chapters in the Fruits section, two chapters in the Ornamental Plants section, and three chapters in the Medicinal Plants section. Chapters vary considerably in length from just over three pages for Chapter 1 on Scotch Bonnet peppers to 86 pages on Minor Greens and Salads.

Some chapters are well-illustrated whereas others lack figures. The illustration of exotic species is especially useful for readers unfamiliar with that crop. A list of references follows the text in most, but not all chapters. Some authors merely list the reference whereas others cite them at the appropriate place in the text.

Readers interested in performance of various horticultural crops in the vast Indian subcontinent will find useful information in this and previous volumes.

DONALD N. MAYNARD
Gulf Coast Research and Education Center
University of Florida
Wimauma