BOOK REVIEW

Dates: Production, Processing, Food, and Medicinal Values

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World date palm (Phoenix dactylifera) cultivation has expanded rapidly in recent years, with fruit production more than doubling from 1991 to 2010, to reach 7.9 million metric tons. This expansion has been led predominantly by the countries of the Arabian Peninsula and North Africa, and bolstered by a steady stream of technical conferences, research articles and books on the date palm.

This well-edited and attractively-printed new book represents the work of numerous contributors from a dozen date-growing countries; more than one-half the contributors, as well as the editors, are based in Oman, and hence many Omani examples are cited. In organization, the book is made up of 29 chapters which are divided into four sections as indicated in the subtitle. Part one on production is the longest. Chapters on mechanization of pollination and fruit harvesting are particularly welcome. Also included are discussions of water management, salinity problems, fertilizer application, pest management, date marketing, tissue culture techniques, as well as an account of a date palm genome project in Saudi Arabia. Publication of the latter chapter is perplexing since the same material appeared a year ago in another date palm book (Jain, S. M., J. M. Al-Khayri and D. V. Johnson, Eds., 2011. Date Palm Biotechnology. Springer, Dordrecht, Netherlands).

Fruit processing is broadly addressed in Part two. Detailed reviews are presented on drying fruits using the sun, solar tunnels, hot air and microwave, and the associated physical and chemical changes which occur. Other chapters deal with computer-assisted fruit assessment, a comprehensive review of alternative fumigants as methyl bromide use is phased out, the range of products derived from date fruits and seeds, and the potential of using processing waste for biofuel production.

The third part of the book focuses on date use as food and feed, and products derived from them, along with their physical, chemical and structural characteristics. Also examined is the use of dates as a fermentation substrate and as a sugar additive in food. Date fruits unfit for human consumption, along with fruit processing waste, have long been fed to animals at a low percentage of overall diet. Shredded date palm fronds can also be fed to animals during times of feed shortage. Such wider uses of products from the entire date palm merit greater research attention.

A chapter tracing the historical and religious role of the date palm introduces the last section of the book. Also discussed is the nutritional value of dates as a functional food, nutraceutical and antioxidant source. Medicinal use of the date and other species of Phoenix, are discussed in relation to Ayurveda and other traditional medicines of India, with claims of treating a host of diseases, despite acknowledgement of the lack of supporting scientific research. The final chapter reports on preliminary research in Oman on the effect of date consumption as an inhibitor of fibrillation of Aβ protein as a defence against Alzheimer’s disease, which could lead to developing a new treatment therapy.

This book covers a wide range of topics and provides current reviews of many of the key issues confronting date cultivation today; as such it represents an important milestone in date palm science and I recommend it.

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