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Molecular Marker Applications for Improving Sugar Content in Sugarcane. By M. Swapna and S. Srivastava. Heidelberg, Germany: Springer (2012), pp. 49, US\$ 49.95. ISBN 978-1-4614-2256-3.

Increasing sugar content in stalks is a key objective in sugarcane breeding because the major costs in sugar production – harvesting, cane transport and milling – are nearly proportional to the weight of cane processed. However, genetic gains in sugar content using traditional breeding have been frustratingly slow. This booklet reviews the most published DNA marker studies in sugarcane, many of which have focused on sugar content.

Three short chapters address sugarcane cytology, breeding and sugar metabolism. The chapter on sugarcane breeding is very 'India-centric', and the one on sugar metabolism does not report many recent studies. The main chapter deals with DNA markers and genomic studies in sugarcane, and discusses results from the most published papers on these topics. A deficiency is an absence of commentary about statistical issues – critical in interpreting quantitative trait loci (QTL) studies. A recurring theme is the challenges of working with this complex polyploid plant. The final chapter comments on potential future directions.

This booklet does provide a useful collation of many published studies on DNA markers in sugarcane. However, I felt that it lacked a logical 'flow' in many parts, lacked supporting references in making many points, and could have benefited from much more editing. It also provided little discussion or insight about how markers may be applied in practice to improve genetic gains in sugarcane. While this may be partly excusable because of a lack of reports to date about markers being applied for this purpose, those attracted by the title could have dashed expectations.

Phillip Jackson

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Dates: Production, Processing, Food, and Medicinal Values (Medicinal and Aromatic Plants – Industrial Profiles). Edited by A. Manickavasagan, M. M. Essa and E. Sukumar. Boca Raton, FL, USA: CRC Press (2012), pp. xviii + 415, £89.00. ISBN 978-1-4398-4945-3.

Dates comprises 29 chapters, contributed by 62 authors from 12 countries, and an index. The book is arranged in four sections: Production, Processing, Food and Medicinal Value with 11, seven, five and six chapters respectively. There are 21 colour pictures.

Each chapter stands alone without cross-referencing, so there are duplications and contradictions. While the book does not claim comprehensive coverage of dates in agriculture and commerce, there are unexpected omissions. As examples, in the section on production, there is a chapter on tissue culture and another on a genome project, yet there is nothing on conventional breeding; pests are covered but not diseases; fertilizers and irrigation are covered but not general agronomy. Elsewhere, the coverage is uneven, thus in the section on medicinal values, the topics are the date palm in the Holy Scriptures (fascinating), the potential functional value of dates, dates in traditional medicine with part of one chapter and the whole of another devoted to Ayurveda, an Indian system of healthcare, and investigation of the potential of dates as protection against Alzheimer's disease.

The book is well laid out and presented. There are difficulties with the usage of English, including spelling, which lead to ambiguities in meaning. Some data are presented with spurious accuracy; for example the contributions of individual varieties to national production totalling 231,000 tonnes are quoted in hectograms, and in other tables the reader is left to guess at the tests of statistical significance. Some chapters are bespoke reviews, some are adaptations of lecture notes and others are adaptations of research reports. Overall, the book summarises a vast amount of information, so specialists in dates will need access to it.

Rob Lockwood