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BOOK REVIEWS

The Parts of Life, Agricultural Biodiversity, Indigenous Knowledge, and the Role of the Third System. Edited by P. R. Mooney. Uppsala, Sweden: The Dag Hammarskjold Foundation. Special Issue of Development Dialogue (1996), pp. 184, No price quoted. ISBN 0345-2328.

This entertaining, racy and utterly prejudiced book is the latest polemic from Mr Mooney and his colleagues of the Rural Advancement Foundation International (RAFI). Mooney displays his colours early in this book, with a reference to 'villainous transnationals I love to hate' and his hatred appears to be a major motivational force for the author. Past onslaughts (and the political developments which they have engendered) on the 'biopirates' of the evil North for plundering the genetic resources of the impoverished South are summarized here. Typically, these underplay the historical movement of crop plants, draw false analogies between archaeological treasures and genetic resources, and over-emphasize the contribution of primitive genetic resources to plant breeding programmes operating in totally different environments.

Mooney's canvas is now much broader and takes in the whole arena of biodiversity, the patenting of life forms and the need to maintain long-established human communities in harmony with their environment. Many good hits are made on the soft targets of transnational pharmaceutical companies. The final chapter is a passionate plea for a 'Third System' (the other two components being governments and transnational corporations) based on the interaction of 'civil society organizations' or CSOs.

In a sea of rhetoric, good sense occasionally breaks to the surface. Thus (p. 76):

> 'The real challenge for global food security lies in creating a nurturing and equitable connection between the genius of farming communities and the genius of the international scientific system – a non-explosive merger of micros and macros.'

Most of us could say 'Amen' to that.

Graham Jenkins

Agrometeorology of Multiple Cropping in Warm Climates. Edited by C. Baldy and C. J. Stigter. Enfield, New Hampshire, USA: Science Publishers Inc. and INRA, France (1997), pp. 237, US$44.00. ISBN 2-7380-0772-4.

The authors describe this book as 'a modest start on . . . a Geiger for the tropics' – a reference to the famous text '*The Climate near the Ground*'. Like Geiger, Baldy and Stigter are pioneers with on-site knowledge of their subject from which they have derived many insights. They have assembled a comprehensive account of the way systems of multiple cropping, ubiquitous in tropical agriculture, can make more efficient use of rainfall and radiation than monocultures. The book is logically divided into three sections covering major features of cropping systems and climates, relevant agro-meteorological principles, and a practical synthesis of the two. The main themes of the book are illustrated by many relevant diagrams and tables but the absence of an index is regrettable. So too is the inconsistent use of units and symbols and the occasional erroneous or obscure statement. However, these shortcomings are trivial compared with the achievement of the authors bringing together, for the first time, a comprehensive account of how systems of intercropping exploit climatic resources. Hitherto, the design of such systems has been mainly empirical but the principles elucidated in this book point the way to greater efficiency in multiple cropping and eventually to more productivity on tropical farms.

J. L. Monteith

Strategies for Improving Salt Tolerance in Higher Plants. Edited by P. K. Jaiwal, R. P. Singh and A. Gulati. Enfield, New Hampshire, USA: Science Publishers Inc. (1997), pp. 443, US$95.00. ISBN 1-886106-97-5.

The book is multi-authored, which creates problems as well as benefits. The first chapter is an entertaining read in which the dogmas of salinity research are set out and systematically put down. The subsequent chapters can be divided into those that describe faithfully the past dogmas and those that are more challenging. The book is strongly biased towards physiology, with 12 of the 19 chapters describing physiological responses to salt stress at various levels: cell permeability, nitrogen and carbon metabolism, growth, and flowering. Even the breeding chapter is written by physiologists. There are two good chapters on genetics but the disproportionate balance of physiology over genetics is regrettable. Whilst the physiologists make some pertinent points, such as the success of physiological selection in breeding, new innovative tools of molecular genetics are almost completely ignored, and it is these which are currently having the greatest impact. An integrative approach would have been better, especially as the combination of physiology and genetics allows genes for stress responses to be identified, which in turn leads to opportunities for genetic transformation. Transformation approaches are dealt with in the latter chapters.

There is a lack of coherency, which is common in multi-authored books, but the book does provide a very useful source of basic information on salt tolerance in crop plants.

B. Forster

Wheat: Prospects for Global Improvement. Edited by H. J. Braun, F. Altay, W. E. Kronstad, S. P. S. Beniwal and A. McNab. Dordrecht, The Netherlands: Kluwer Academic Publishers (1997), pp. 582, £170.00. ISBN 0-7923-4727-7.

This book reports the proceedings of the Fifth International Wheat Conference, held at Ankara in 1996. It comprises sessions on breeding for grain yield, breeding for resistance to biotic and abiotic stresses, and breeding for improved nutritional quality, as well as reviews of recent work on biotechnology; the conservation and management of genetic resources; the physiology and agronomy of wheat; and on international co-operation in wheat breeding, with special reference to the work of CIMMYT and ICARDA. Each session is introduced by papers from international experts, including outstanding contributions from W. E. Kronstad, E. Sears, R. A. McIntosh, W. Bushuk, J. W. Snape and A. F. Merezhko. The urgency of the problems addressed by the conference is perhaps best indicated in a paper by S. Rajaram and S. Ceccarelli, who start their review on international co-operation by drawing attention to the predicted 30% increase in world population by 2025, and the pressing need to improve levels of nutrition in many parts of the world.

The keynote papers present an excellent overview of the problems faced by wheat breeders and the methods being used to meet them. It is unfortunate that many of the other papers are of a much lower standard, making it difficult to justify the publisher's price of £170.

F. G. H. Lupton

Intellectual Property Rights in Agricultural Biotechnology. Biotechnology in Agriculture No. 20. By F. H. Erbisch and K. M. Maredia. Wallingford, UK: CAB INTERNATIONAL (1998), pp. 224, £45.00. ISBN 0-85199-923-23.

The application of biotechnology to agriculture offers immense opportunities for the quality of life and wealth creation. However, its global potential will not be realized without an effective mechanism for protecting Intellectual Property (IP).

This book is up-to-date and organized into 15 chapters. The first section, comprising four chapters, overviews IP, protecting plant varieties and germplasm, technology transfer and the management of IP, by academic institutions. The second section reviews IP protection in eleven

different countries or regions. Considerable effort has been made to minimize reference to legal statutes, case history and jargon while maintaining sufficient information to make the book a useful, readable introduction of IP for scientists, administrators, growers, seed companies and policy makers. The various annexes, containing specimen patent applications and licence agreements, points of contact and sources of information, will be valuable throughout the world, especially in developing countries.

In a global economy with open markets and free-trade agreements, IP rights and effective IP enforcement are an essential prerequisite. The handbook highlights the different levels of sophistication in national patent offices and may facilitate international harmonization of IP protection. However, the question remains as to whether effective IP protection facilitates access to technology only for those in an advantageous position with adequate resources, while acting as an entry barrier to those less advantaged.

N. W. Kerby

Readers may be interested to know about the following publication, received but not reviewed because of its limited relevance to the majority of readers of *Experimental Agriculture*.

The Agrarian Economies of Central & Eastern Europe and the Commonwealth of Independent States. Situation and Perspectives, 1997. By C. Csaki and J. Nash. Washington DC: The World Bank† (1998), pp. 144, US$20.00. ISBN 0-8213-4238-X.

†Pricing of publications by The World Bank. The World Bank has agreements with sole distributors in most countries. The prices quoted in US$ are for the USA. For UK prices it is necessary to consult its UK agent, Microinfo Ltd, PO Box 3, Alton, Hants, UK.