

belated arrivals. Risks remain from reduced availabilities of surpluses if world prices rise as a result of growing populations, rising incomes elsewhere and perhaps bio-energy cropping. Moreover, political will remains essential, both amongst potential donors, and in recipient countries.

Parts II and III of the volume contain the standard statistical FAO data – basic material for anyone wishing to monitor and assess the broad geographical and temporal patterns of global food and agriculture.

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Journal of Agricultural Science (2007), **145**.

doi:10.1017/S0021859607007095,

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Principles of Plant Genetics and Breeding, by G. ACQUAIAH. xiii + 569 pp. Oxford, UK: Blackwell Publishing (2007). £39.99 (US\$84.95, AU\$132.00) Hardback.
ISBN 1 4051 3646 4.

Plant breeding is a very broad subject that takes information from a wide range of scientific disciplines. Although scientists involved with plant breeding may develop in-depth expertise in one area of science they must have good general knowledge of many areas, which, arguably, makes them better scientists. This book takes a fresh up-to-date look at the principles, concepts and practices of plant breeding and presents them in an accessible and thought-provoking way. It is aimed at upper undergraduate/early graduate students but also provides a good ‘refresher’ course for more experienced plant breeders. Inevitably the author tends to give a mainly North American view on some aspects of plant breeding, such as applications of biotechnology, the impact of intellectual

property rights and the process of cultivar release but this does not generally reduce the book’s wider relevance. For example, there tends to be more emphasis on genetic engineering rather than on marker-assisted selection (MAS), although some of the very interesting additional contributions from plant breeding professionals in the book bring MAS more into focus. These ‘industry’ contributions are a valuable part of the book in giving good links to breeding in practice and providing excellent examples of what plant breeding can achieve. While it is important that underlying genetic principles are included in the book there are some aspects of population genetics, quantitative genetics and selection theory that tend to lack some clarity. For example, the treatment of Hardy–Weinberg equilibrium is rather confusing; there is a statement that ‘natural mutations are of little importance to practical plant breeding’ (this is certainly wrong for quantitative traits); and that the selection of rare alleles is ineffective (again this is not necessarily true). Also the section on bioinformatics is somewhat disappointing and doesn’t really begin to explore the potential of using information from model or investment-rich crop species to aid the development of ‘orphan’ crops. However the value of the book is in ‘flagging-up’ the wide range of topics that are relevant to modern plant breeding programmes and in providing an introduction to pertinent information. Most examples are drawn from globally important arable field crops although some of the additional ‘industry’ contributions pay more attention to crops specifically of value in developing countries. The book will certainly help in training badly needed new plant breeders and should be of general interest to anyone concerned with the impact of plant breeding for public good including exciting new developments in bioenergy and alternative land-use.

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