Trying to integrate data from disparate fields inevitably leads to misinterpretation of some information. For example, Mangelsdorf's tripartite hypothesis is so-called because of its three postulates: he did not suggest a tripartite *origin* of maize. Each chapter begins with a glossary; the terms are not always those most needed by the reader. Thus, agriculture is defined but alicole is not.

Mangelsdorf's view that 'the ancestor of maize is maize' has given way to the current orthodoxy that the ancestor of maize is teosinte. This owes much to John Doebley and his group, who unfortunately have not contributed to this book. Instead, Hugh Iltis argues for a 'maizoid Eve' (origin of maize from a single plant of teosinte carrying a rare mutation of the gene *tga1*).

Current controversies are fuelled by discrepancies between dates on macrobotanical remains (none older than about 6250 years) and microbotanical remains (pollen and phytoliths purportedly 7000 years old from outside the range of teosinte). Analyses of $^{13}C/^{12}C$ ratios in human skeletal remains may show whether C_4 plants (in effect, maize) were important in the diet and have been used to trace the spread of maize into temperate climates where indigenous plants are mostly C_3.

Readers of *Experimental Agriculture* are unlikely to want to do more than dip into some of the chapters of this book.

Barbara Pickersgill

Genetic Improvement of Solanaceous Crops. Volume 2. Tomato. Edited by M. K. Razdan and A. K. Mattoo. Enfield, NH. USA: Science Publishers (2007), pp. 637, US $108.00. ISBN 978-1-57808-179-0. doi:10.1017/S0014479707005443

Among the Solanaceous crops tomato is an important vegetable crop in the world. This book includes contributions of 34 authors from six countries. Sixteen chapters cover history, origin, genetic resources, cytogenetics, heterosis, breeding for quality traits, nutritional value, use of molecular markers in selection, genetic engineering, hormonal control of fruit maturation, fruit ripening, breeding for resistance to bacterial, fungal and viral diseases, resistance to insects and mites, and tolerance to abiotic stresses. All the chapters emphasize molecular genetics, genetic engineering and genomics.

The quality, extent of coverage, the method of presentation, and cross-reference to other chapters in the book by most authors are very good. The chapter on molecular markers in selection of tomato germplasm has been cleverly written even though markers are used in many other chapters. The first two chapters compete in many areas and present the same information.

Poor editing resulted in typographical errors from the first page, use of abbreviations (e.g. AVDRC and ARDC), poor placement of Table (Table 2.1 in page 36 but referred to on page 47), and omissions as in Figures 8.2 (legend says open and closed squares but no open square appears in Fig. 8.2). Table legends and/or contents are garbled (pages 358, 394, and 397).

In spite of the above flaws this book is a valuable reference material with the latest information for students, teachers and researchers interested in the genetic improvement of tomatoes.

S. Shanmugasundaram

GM Crops. The Impact and Potential. By J. A. Thomson. Collingwood, Vic, Australia: CSIRO Publishing (2006), pp. 158, AU$39.95 (paperback). ISBN 0-643-09160.2. doi:10.1017/S0014479707005455

Much of the debate about GM crops is ill-informed with opinion often quoted as scientific fact. This detracts from what may well be genuine matters of concern. Jennifer Thomson's latest book is undoubtedly of benefit to all readers, supporters of GM crops or otherwise. It is clearly set out, with an excellent introduction and chapters dealing with the main areas of development in GM crops and possible matters of concern. Each chapter ends with an excellent summary and references.

The differing stances of wealthy well-fed people in the western world, who can afford the luxury of choice, contrast with the need of those struggling on the edge of starvation in Third World countries. Though the author focuses on the yield and cost advantages of GM crops, there are useful explorations of indirect benefits to the environment from growing these crops.

The book recognizes that *no* form of pest or disease resistance, however it is produced, will last forever. However, the author introduces interesting biotechnology strategies to extend the life of resistance, which are difficult and costly for the conventional plant breeder to achieve.