Glossary of Biotechnology for Food and Agriculture. FAO Research and Technology Paper 9. By A. Zaid, H. G. Hughes, E. Porceddu, F. Nicholas. Rome: FAO (2007), pp. 305, US$22.00. ISBN 978-92-5-104683-8. doi:10.1017/S0014479708007357

The intention of this revised and augmented edition of the previous *Glossary of Biotechnology and Genetic Engineering* is to provide a convenient reference source for researchers, students and technicians. It also aims to help those whose native language is not English.

In general the Glossary is very user-friendly, easy to read and contains a comprehensive set of useful terms. Most descriptions are accurate, with some exceptions: for example, 'abiotic' means non-living and not absence of living organisms; 'authentic protein' is not necessarily recombinant protein; the 'edible vaccine' entry is misleading, as it suggests that it is already available – to the best of my knowledge it is not as yet commercially available. The more general term for the 'explosion method' is 'microparticle bombardment'; the term 'living modified organism' is not restricted to organisms that can endanger biological diversity, in everyday usage LMOs are considered to be the same as GMOs (genetically modified organisms).

The rapid change of biotechnology and its terminology may explain the omission of some important new terms like 'cisgenesis', 'cisgene', 'cisgenic plant', 'microRNA' (miRNA)'; 'non-coding RNA', and 'locked nucleic acid' (LNA) to mention a few. However, what I missed most were traditional terms such as 'co-existence', 'real-time polymerase chain reaction' or 'quantitative real-time polymerase chain reaction'; 'three prime untranslated region' (3' UTR), and 'traditional or conventional breeding'.

Overall, the Glossary is a very useful source of definitions of biotechnology processes, especially for people with limited access to the Internet.

Eva Vincze

Mycorrhizae in Crop Production. Edited by C. Hamek and C. Plenchette. Binghamton, NY, USA: Haworth Food and Agricultural Products Press (2007), pp. 319, US$49.95 (paperback). ISBN 978-1-56022-307-8. doi:10.1017/S0014479708007369

This book covers recent advances in the role and potential of mycorrhizae in crop improvement. First, there are chapters which summarize current knowledge in a number of areas including: the role and activity of the external mycelium and the effects of interaction between plants and arbuscular mycorrhizal (AM) fungi in nutrient uptake (including water) and in resistance of plants to pests and diseases. These are followed by chapters dealing with the role of AM fungi in specific agricultural areas including horticulture, tropical and Indian agriculture. They do not include the possible roles of AM fungi in temperate agricultural systems, such as those in North America, Australia and Europe, or cover agriculture in the Far East including China. This may be due to a perceived lack of requirement for AM fungi in these systems, a lack of appropriate research in these geographical areas or a lack of willing authors. The last chapter summarizes recent reviews into the possible roles and effects of climate change on the AM symbiosis, and highlights significant gaps in knowledge that need to be addressed.

In general, this is a well-written and very interesting volume that provides easy access to a large and disparate literature and emphasizes the importance of AM symbiosis, the level of knowledge associated with its role in agriculture, both current and moving into the future, and the significant lack of knowledge required to produce more efficient symbiotic systems. This lack is particularly apparent in the paucity of experimental data available to the author of the chapter on climate change.

T. J. Daniell

Nitrogen-fixing Leguminous Symbioses. Nitrogen Fixation: Origins, Applications and Research Progress. Volume 7. Edited by M. J. Dilworth, E. K. James, J. I. Sprent and W. E. Newton. A. A. Dordrecht, The Netherlands: Springer Science. (2008), pp. 402, £115.50. ISBN 97-1-4020-3545-6. doi:10.1017/S0014479708007370

This is the final volume in a comprehensive seven volume series on all aspects of nitrogen fixation, one of the key biological processes on the planet and still a major provider of nitrogen in agro-ecosystems. The best known, and possibly most important, relationship in nitrogen fixation, that between root-nodule bacteria and legumes, is comprehensively examined in 12 chapters written by a wide range of experts in the field, and edited by an illustrious quartet.