

measurement of the effects of inoculants on soil functional groups. Whilst laudable, the inclusion of much freely available information has restricted both the range of groups covered and the introduction to each group, and it is not certain if the balance between these areas has been maintained.

Editing lacks uniformity with many typographical errors in the text of a number of chapters, thereby reducing their readability.

In summary, this volume provides a good effective introduction to the subject area, with an extensive range of inoculants and practices covered.

Tim Daniell

*The Future of Soil Science*. Edited by A. E. Hartemink. Wageningen: International Union of Soil Sciences (2006), pp. 165, £25.00. ISBN 90-71556-16-6. doi:10.1017/S0014479706414538

This collection of 55 short essays by soil scientists from 28 countries was produced for the 18th World Congress of Soil Science held in July 2006 in Philadelphia. Alfred Hartemink has tried to stimulate a debate about the future of a subject that is to some, in decline, but to others at the threshold of exciting, new developments. The personal views make interesting reading but, as one might expect, there is no clear, over-riding message or view. Some contributions focus on the issues of reduced student demand in long-standing university departments and the shortage of funding for soils research, while others look to new aspects of the subject that will be the heart of new university groupings and research institutes. As the projected global population heads towards 9–10 billion by 2050, it is inconceivable that producing nutritious food will not continue to occupy some soil scientists (probably, though, many more will be in the private sector rather than public institutions). That interest will probably continue to decrease relative to pressing problems in soils of urban areas (where most people will live). As a soil scientist, I warmed to the contribution of Fowler who (along with many others) stressed the need for integrative approaches and inveighed against the replacement of ‘natural processes with quick-fire solutions – earthworms with subsoilers, predators with pests’. The emergence of Earth System Science as a central component of much global science thinking received only one mention but it, together with the emerging studies of ecosystem goods and services provide a ready-made home for soil scientists and a framework for agricultural production, biodiversity and environmental considerations. At least, that is what this optimist thinks!

Peter J. Gregory

*Biological Approaches to Sustainable Soil Systems*. Edited by N. Uphoff, A. S. Ball, E. Fernandes, H. Herron, O. Husson, M. Laing, C. Palm, J. Pretty, P. Sanchez, N. Sanginga and J. Thies. Boca Raton, FL, USA: CRC Press (2006), pp. 764, £85.00. ISBN 10-1-57444-583-9. doi:10.1017/S0014479706424534

Despite advances in aquaculture, soils will remain the foundation of food production for the future, so sustaining their productive capacity is essential. At the outset of this book we are invited to consider how agriculture might achieve increased production with greater sustainability but with less dependence on exogenous inputs. It is suggested that enhancing biological interventions with appropriate external inputs is the way forward.

The 50 chapters of the book provide a plethora of detail of various biological agents and processes occurring in soils. Chapters covering individual soil organisms and aspects of crop nutrition lead to descriptions of strategies for maintaining fertility in diverse cropping systems and at diverse scales from individual family farms in dry parts of Africa to conservation agriculture in South Asia. Protozoa, nematodes, rhizobia, mycorrhizae, composting, legumes, allelochemicals, rhizosphere management, biofertilizers, and tillage (among others) are all dealt with in, generally, well-written and edited short chapters. As with so many edited collections, though, the coherent message is difficult to discern: can sustainability really be achieved through examination of the elements listed above in isolation (biological or otherwise) or are interactions and holistic approaches the key and, if so, how can they be managed? The first and last chapters suggest that integration of techniques and technologies are, indeed, essential and also acknowledge that labour and biomass availability remain major constraints to widespread adoption of biologically driven innovations. This book contains many stimulating ideas that should find a place in the libraries of all forward-looking agriculturists.

Peter J. Gregory