The majority of the contributors are from the US and work originating from North America is the focus of the book. We recommend this book to researchers and catchment managers with either an interest in how to model the transport and fate of phosphorus in the environment or how to improve their understanding of model outputs.

C. J. A. Macleod *and* P. M. Haygarth

Molecular Approaches to Soil, Rhizosphere and Plant Microoganism Analysis. Edited by J. E. Cooper and J. R. Rae. Wallingford, UK: CABI Publishing (2006), pp. 297, £75.00. ISBN 1-84593-062-2. doi:10.1017/S001447970700556X

This book aims to give an introduction to molecular-based methods applied to a range of topic areas relating to soil biology or ecology. The book is split into 16 chapters which can broadly be separated into two classes. Some chapters discuss specific molecular approaches such as micro-array analysis, terminal restriction fragment length polymorphism (T-RFLP) analysis and metagenomics, whilst others focus on a wide range of topic areas with analysis of methods that are applicable to each subject. There are, for example, chapters covering plant growth promoting bacteria, sulphur- and iron-oxidizing bacteria, plant pathogens and mycorrhizal fungi. The book has successfully applied this model with the majority of methodological chapters providing clear, concise and useful descriptions of the areas covered, whilst the subject-driven chapters give interesting examples of how such methodologies can be applied in the soil/rhizoplane area. Essentially the chapter authors have succeeding in producing readable summaries of the state of the art associated with their subject area, avoiding the danger of such methodological remits becoming dry.

As such this book is a useful addition to the literature and should prove valuable to students and established scientists alike entering the field for the first time.

Tim Daniell

Greenhouse Gas Sinks. Edited by D. Reay, C. N. Hewitt, K. Smith and J. Grace. Wallingford, UK: CABI (2007), pp. 290, ISBN 978-1-84593-189-6. doi:10.1017/S0014479707005571

Climate change and greenhouse gases are at last getting the media and public attention that their importance deserves. Even a superficial accounting of the different climate forcing terms quickly demonstrates that anthropogenic radiative forcing represents only a tiny proportion of the natural terms. Hence the radiative imbalance that is causing global warming could potentially be offset by a small natural rebalance. This makes it all the more important to understand quantitatively the natural gas and radiation exchange processes, and this book makes a contribution to that understanding.

The book is edited, and the 17 chapters written, by good people in their fields. Around half the content is on aspects of carbon dioxide – a proportion that mimics its relative importance in radiative forcing. There are overall reviews of natural terrestrial and marine sources and sinks, followed by more detailed investigations of more specialist topics. As often happens with this type of compilation, there is some unevenness between broad-brush overview and specialist research (e.g. a chapter on no-till farming). There is an interesting look at emissions trading, which is going to take an increasing role and for which biological sinks may be significant. The editors move on more briefly to methane, and then to nitrous oxide, before wrapping up with some thoughts on interactions.

Books of this nature have a narrow marketplace. They are not specialist enough for scientists actively involved in the topics, and not general enough for lay people. Nevertheless, there is a significant group that will benefit from having this up-to-date summary of the science, with extensive references, on their shelves.

Jeremy Colls

Seed Development: Dormancy and Germination. Edited by K. Bradford and H. Nonogaki. Oxford: Blackwell Publishing Ltd (2007), pp. 367, £99.50. ISBN 1-4051-3983-8. doi:10.1017/S0014479707005583

This is a part of the Annual Plant Reviews series, with 31 contributors from Asia, Europe and the Americas, and covers the complex molecular interactions discovered from recent research with (mainly) the model system