

BOOK REVIEWS

Something New Under the Sun: An Environmental History of the Twentieth Century. By J. McNeill. London: Penguin Books (2001), pp. 421, £8.99. ISBN 0-140-29509-7.
DOI:10/1017/S0014479702210492

This is an unusually brilliant and remarkably concise examination of environmental change in the past century. In the seven chapters of Part One, the author demonstrates that we humans have impacted all the 'spheres' that surround us on our planet – the lithosphere and pedosphere, the atmosphere, the hydrosphere, and the biosphere – more deeply in the twentieth century than in all previous history combined. During the twentieth century the world's population quadrupled, the global economy expanded 14-fold, and industrial output expanded by a factor of 40. Also, carbon dioxide emissions increased 13-fold, water use rose nine times and energy use increased 16 times. In that time too, humans used ten times more energy than their forbears had over the entire 1000 years preceding 1900. In the five chapters of Part Two, the author dextrously analyses the elements of population growth, migration, technological change, industrialization and international policies, ideas and their many 'feedback loops' into the realm of environmental policies.

The author is not a dogmatic 'no-change-at-all' environmentalist or a 'doom and gloom, degradation everywhere' ambassador. He does caution us, however, to be prudent: first to understand the sheer dimensions of environmental change and the many results thereof in this past century; and, second, to think sensibly about how these problems might be addressed before dangerous thresholds are breached by our unwitting, collective activities. This book is immensely insightful and revealing, carrying a message that is deeply gripping and sobering. It deserves the widest attention from scientists, educationalists, the public, politicians and corporate leaders alike. For undergraduates everywhere, it should be compulsory reading.

A. H. Kassam

Competition and Succession in Pastures. Edited by P. J. Tow and A. Lazenby. Wallingford: CABI Publishing (2001), pp. 322, £65.00. ISBN 0-85199-441-5.
DOI:10/1017/S0014479702220499

This is a welcome book on an important, complex subject. It has twelve chapters on the many aspects of competition, as well as introductory and concluding chapters by the editors. Measuring competition, genotype and environmental adaptation, and competition between grasses and legumes in swards are dealt with in early chapters. The implication of competition on management is followed by articles on specific zones, for example, humid temperate grasslands in South Australia and cold conditions in Canada. A major zone of natural grazing is covered in a chapter on the effects of large herbivores on tropical savannas. These pastures are characterized by a woody component and the presence of wild as well as domestic herbivores. Therefore, bush-encroachment, fire and browsing (elephants destroying trees) and the effects of livestock each have an important role in competition.

This book will be valuable to pasture researchers in all climatic zones. It does show, however, that

much is still to be learnt. In non-rotational pastures, the aim is to develop swards of very long duration yet much of the data here are from pot trials, some are from work on annuals, and several authors point out that a lot of testing of cultivars and mixtures is still based on clipping trials over a few years.

J. M. Suttie

Designer Food. Mutant Harvest or Breadbasket of the World? By G. E. Pence. Oxford: Rowman & Littlefield Publishers Inc. (2002), pp 233, £19.85. ISBN 0-7425-0839.
DOI:10/1017/S0014479702230495

'Designer Food' should be obligatory reading for all involved in the genetic modification (GM) debate. Those opposed will find that Professor Pence deals with scientific fact rather than myths and will probably ignore his many words of wisdom. Supporters will find cause for thought in his portrayal of the viewpoints of opponents. The book nicely separates scientific issues from those of big business, world trade and cultural differences. Pence highlights matters of national wealth and the need to feed a burgeoning world population. Those on the brink of starvation eagerly embrace the benefits of GM crops and only the wealthy can afford to ignore them. 'Organic' methods, with attendant problems of mycoses, higher costs and lack of food security, cannot satisfy demands.

Pence is no one-man publicist for big business and criticises, among others, their flawed attempts to introduce GM crops to Europe. He rightly identifies problems such as bovine spongiform encephalopathy (BSE) as contributors to a public mistrust of all science but correctly apportions the blame to political failings rather than scientists. The author is justifiably critical of the excessive attention paid to a very active but frequently misguided and ill-informed minority that opposes any new technology.

This is a well-balanced, easy-to-read text that will be enjoyed by scientists and general public alike.

W. H. Macfarlane Smith

The Ethics of Food. A Reader for the 21st Century. Edited by G. E. Pence. Oxford: Rowman & Littlefield Publishers Inc. (2002), pp. 285, £20.95. ISBN 0-7425-1334-3.
DOI:10/1017/S0014479702240491

This informative book contains 20 chapters, 18 of which are essays published previously during the period 1976 to 2002, with most in the late 1990's to 2001. In addition there are two hitherto unpublished essays. The different authors are highly authoritative specialists in their respective fields and have widely differing opinions. Chapters are grouped into nine topics: the meaning of food; eating meat; starvation; safety of genetically modified foods; benefits/dangers of organic food; genetically modified food and environmental risks; food biotechnology and nature; global food politics and economics, and the food industry.

The 'anti' GM lobby and those who are strong supporters of GM crops state their cases with their usual fervour and passion. Both the publishers and the editor are to be commended for bringing together such diverse viewpoints in one, easy-to-read volume. The result is a book that should appeal to a wide readership among those who are keen to gain a better understanding of the 'pros' and 'cons' of GM crops, of food production in general, and of GM effects on ecosystems.

N. L. Innes

Food for All. The Need for a New Agriculture. By J. Madely. London: Zed Books (2002), pp. 191, £9.99 (paperback). ISBN 1-84277-019-5.
DOI:10/1017/S0014479702250498

In addressing the challenge for food to be produced *by* people who need it most *for* the people who need it most, *in* the places that need it most, the author of this book is highly critical of high-tech, agrochemical-dependent, corporate-dominant farming systems. Criticism is also levelled at multi-nationals; official agencies such as the World Bank, FAO and the CGIAR; debt recovery; the WTO Agreement; big water dams; loss of genetic resources and biodiversity; GM crops; patents; and more. Many facets of the complexities of reducing the vast number of those people suffering from chronic hunger are explored. Beneficial developments using traditional farming techniques are highlighted, but many readers will not agree that the solutions proposed by the author to reduce poverty and ensure food security will provide success on the necessary scale. However, this book will provide interesting, albeit controversial reading to scientists and the general public, especially those who wish to broaden their knowledge of the problems faced by resource-poor, small-scale farmers, particularly women, and their efforts to overcome these problems. A minor error appears on page 12 where it is claimed that maize (instead of wheat) was produced by Irish farmers at the time of the infamous Irish potato famine.

N. L. Innes

Integrated Plant Nutrient Management in Sub-Saharan Africa. Edited by B. Vanlauwe, J. Diels, N. Sanginga and R. Merckx. Wallingford, UK: CABI Publishing, with Ibadan, Nigeria: International Institute of Tropical Agriculture (2002), pp. 352, £55.00. ISBN 0-85199-576-4.
DOI:10/1017/S0014479702260494

Africa south of the Sahara has not achieved gains in productivity like those in East and South Asia in the last four decades. According to this book, the basic reason is that soil nutrients have not been kept at reasonable levels. The solution demands better use of organic manures and mineral fertilizers. It contains 24 chapters, including one on Recommendations. Most chapters are well and clearly written, with occasional lapses into complexity. The book is based on the Nutrient Management Systems project carried out jointly by IITA and the Katholieke Universiteit Leuven.

Dudal excellently reviews the last 40 years. The mean rate of fertilizer use is now similar in developed and developing countries, but Africa still lags behind. Price or availability of fertilizers often prevents their use. The nutrient depletion of soils is truly serious, whereas environmental problems from excessive fertilizer use are comparatively trivial.

There follow sections on selection of sites in specific countries, on the interaction of organic and inorganic fertilizers, and on use of local rock phosphates. The efficiency and availability of organic manures are often low, and inorganic materials are essential.

The last section deals with applying new technologies on farms. Smaling *et al.* recommend integrated nutrient management that aims to balance nutrient flows; this must be the sustainable way forward.

The book is well produced and almost free of misprints. It is on a vital subject, on which major progress is at last being made. Anyone interested in African agriculture should get it.

P. B. Tinker

State of the World 2002: A Worldwatch Institute Report on Progress Towards a Sustainable Society. London: Earthscan Publications Ltd. (2002), pp. 265, £12.95. ISBN 1-85383-878-0.
DOI:10/1017/S0014479702270490

This 19th edition of State of the World Report is dedicated to the forthcoming World Summit on Sustainable Development to be held in Johannesburg in August/September 2002. According to the

publishers, it assesses the progress, and the lack of it, made since the meeting in Rio de Janeiro 10 years ago, and analyses the challenges and tasks that the World Summit has to address if the next century is to show genuine progress towards a sustainable society. The Report contains the following eight chapters: the challenge for the meeting in Johannesburg in creating a more secure world; moving the climate agenda forward; farming in the public interest; reducing our toxic burden; redirecting international tourism; rethinking population to improve lives; breaking the link between resources and repression; and reshaping global governance. Each chapter ends with a suggested list of priorities to be considered at the Johannesburg World Summit.

It is not clear on what basis the chapter topics were chosen, nor does the Report directly attempt to comprehensively assess the progress made since Rio '92. In fact, Agenda 21 is mentioned on fewer than 10 pages. That first World Summit was about the environmental impacts of development and, therefore, about sustainable development from an environmental viewpoint. On the other hand, the title of the report reviewed here refers to 'sustainable society' which is even more complex a challenge than is sustainable development. It can never be an easy task for the Worldwatch Institute to deliver annually a useful State of the World Report. To prepare such a report, however, which does not first define the two words in its title – 'sustainable' and 'society' – must make the task even harder. The above notwithstanding, the Report provides a useful catalogue of information and analysis which no doubt should contribute to the discussions and decisions at the 2002 World Summit.

A. H. Kassam