

Book reviews

Journal of Agricultural Science (2007), 145.
doi:10.1017/S002185960600671X,
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Sugar Beet, ed. A. P. DRAYCOTT. xxi + 474 pp.
Oxford: Blackwell Publishing Ltd (2006).
£125.

Sugar beet is a major crop and produces one quarter of the world's sugar in temperate climates, where sugar cane cannot be grown. The prospects for sugar beet do not look good from where I write, 4 km from a sugar factory due to close at the end of the current campaign in the drive to improve efficiency. For areas where the crop continues to be grown, World Trade Organisation agreements will lead to lower prices in the future, but an emerging biofuel industry may revive the fortunes of the crop.

This multi-author book aims to update the comprehensive book *The Sugar Beet Crop* edited by Cooke and Scott and published in 1993. The structure of the new book is largely unchanged, and even some of the content is unchanged – but then there is little reason to change well-written text on fundamentals.

A particularly useful addition is the 79 colour plates, which are a huge advantage for showing nutrient deficiency and disease symptoms. The inclusion of a few black and white plates detracts slightly from this advantage, making the caption '... vein yellowing on young leaves ...' pointless for the monochrome beet yellow vein virus plate.

One chapter from *The Sugar Beet Crop* is omitted: 'Opportunities for manipulation of growth and development'. This chapter covered potential of plant growth regulators (PGRs) and of genetic manipulation of growth and development. This potential has not been fulfilled in the intervening years and the omission of PGRs from *Sugar Beet* is probably justified. Genetic transformation has a brief mention in the chapter on Genetics and Breeding but, as far as commercial success is concerned, this section covers only the political difficulty of introducing GM beet in Europe. I was left wondering whether other countries, e.g. USA, grow GM beet, since there is a substantial area of GM soybean etc. outside the EU.

Some minor weaknesses include the rather brief coverage of economic and political factors influencing sugar beet production (although this brevity is understandable if the editor's aim is to produce a volume which will not be rapidly outdated), and the lack of discussion of the deleterious effects of sugar on health.

The food label 'sugar-free' is proliferating in the UK, and since this aspect could be an important determinant of sugar demand it ought to be included in a future edition.

Detailed treatment of virus yellows is unfortunately split over three chapters (Agronomy, Virus Diseases, Pests), but only draconian editing could have brought them together, at the risk of annoying, and possibly even losing, some authors.

There is detailed consideration of utilization of the co-product, sugar beet pulp, but not of the main product, sugar. Uses as a chemical feedstock and for bioethanol are mentioned only briefly, but would have justified greater coverage.

The review of *The Sugar Beet Crop* by D. S. H. Drennan in 1994 (*Journal of Agricultural Science, Cambridge* 122, 327) stated '... clearly provides a broad and considered outline ...'. This is just as applicable to *Sugar Beet*. Despite a few minor weaknesses, it is an excellent first source of information on almost all aspects of the crop. It will replace *The Sugar Beet Crop* on my reading list for agriculture students.

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Journal of Agricultural Science (2007), 145.
doi:10.1017/S0021859606006587,
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Physiology and Behaviour of Animal Suffering by N. G. GREGORY. viii + 268 pp. Blackwell (2004). £39.99 (US\$79.99). ISBN 0 632 06468 4 (Paperback).

There is, globally, rapidly growing concern for animal welfare issues and interest in the prevention of animal suffering. This book is the first specifically to address the physiological and behavioural aspects of animal suffering. Although the title of the book covers both behavioural and physiological aspects of suffering, the book is predominantly given over to the physiology of suffering and pain, with only three chapters dealing specifically with psychological suffering (chapters on Anxiety and Fear; Emotional Numbness and Deprivation; and Aggression, Overcrowding and Discomfort). Nevertheless this book is extremely broad in scope and is a vast, and sometimes disturbing, catalogue of the many ways in which animals suffer, by accident, by interactions with conspecifics and at the hands of humans. Chapters variously cover areas such as cold, heat and burns, thirst and hunger,