The book is described as of interest to 'citizens of the 21st century', as well as students, practitioners, crop protection specialists and researchers, but priced at £55 it will probably not reach this wide readership.

Brian Williamson

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Genetic Resources, Chromosome Engineering and Crop Improvement. Volume 5. Forage Crops Edited by R. J. Singh. Boca Raton, FL, USA: CRC Press (2009), pp. 323, US$139.95. ISBN 978-1-4200-4739-4.

This book is largely written by experts on individual forage species, or groups of species, who have contributed chapters dealing mainly with germplasm resources, taxonomy and cytogenetics with brief treatments of molecular mapping approaches and genomics. The chapters cover many of the most important forage species, namely: alfalfa, wheatgrass and wild rye grasses, bahia grass, *Brachiaria*, birdsfoot trefoil (*Lotus corniculatus*), clovers, Bermuda grass and ryegrass. As can be seen, both temperate and tropical species are dealt with. In general, the chapters are well written and comprehensive and are particularly strong regarding germplasm resources and the gene pools available for crop improvement. There is some variability in the extent to which crop improvement *per se* is considered and relatively little that could be classed as 'chromosome engineering'. Clearly the book is not fully comprehensive with respect to important forage crops: e.g. there is no treatment of fescues, timothy or cocksfoot. The chapters on clovers and perennial ryegrass are considerably shorter and less comprehensive than those on crops of less agricultural importance such as birdsfoot trefoil.

There is a strong 'Americas' emphasis to much of the book with very little mention of the considerable amount of work on some of these species in Europe, Australia and New Zealand. In general however, this book is a very useful addition to publications on forage crops and should appeal to practitioners (plant breeders, geneticists, forage scientists) as well as advanced students in this area.

Michael Abberton

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Principles and Practices of Plant Genomics. Volume 2 : Molecular Breeding. By C. Kole and A. G. Abbott. Enfield, NH, USA: Science Publishers (2008), pp. 582, £85.00. ISBN 978-1-57808-537-8.

Improving crops to meet the diverse needs of humanity for consumption, medicinal, construction and landscaping purposes has been quite a challenge to plant breeders. Through conventional breeding many crop varieties have been developed to address these needs, but rapid population growth, dwindling natural resources, climate change and a more quality-oriented population have intensified the need for varieties with higher yield potential, better resource-use efficiency and more balanced nutrient composition. The deployment of molecular technologies in crop breeding has enabled dissection of genetic factors that underlie the expression of quantitative traits which have proven difficult to improve through conventional breeding.

This volume gives a good insight into applications of molecular tools in plant breeding. It begins with a good background of molecular breeding tools and approaches and then details their applications in precision breeding to improve specific plant traits such as yield, physiological traits, quality and biotic and abiotic stress resistance. Plant improvement programmes highlighted range from cereals to root crops, oil and fibre crops, fruit trees, forest trees, and forage and turf plants. The authors appropriately end the publication with a section on different intellectual property tools that are available for plant variety protection. The book is thus an excellent repertoire of information for students and breeders alike of how molecular tools can be used to characterize germplasm, and also to guide rapid introduction of specific genes and quantitative trait loci into plants to produce varieties that meet increasingly complex plant breeding goals.

Baboucarr Manneh