Book Reviews

Bunting, E.S., Pain, B.F., Phipps, R.H., Wilkinson, J.M., Gunn, R.E. (eds.): Forage Maize Production and Utilisation
London: Agricultural Research Council 1978. 346 pp., 86 figs., 123 tabs. Soft bound £ 14.00

Maize has been grown in the United States and parts of Europe for many years. However, because of the recent development of early-maturing hybrids which grow well in England and similar climates in northern Europe, its use as a forage crop is being more widely recognized and promoted. This book containing 14 chapters presents all aspects of the production and utilization of maize as a silage and green forage crop under these climatic conditions. Most of the information presented concerns forage production in England. However, an attempt is made to broaden the scope and applicability of the information by including Chapter 2 (The influence of climate on maize production in northwestern Europe by Carr and Hough) and interjecting in other chapters, pertinent results from studies conducted outside England. In general, the organization is excellent with the chapter topics chosen to encompass specific, well-defined areas. The chapters are well written with the discussions, conclusions and recommendations supported by tables of results and numerous recent literature citations. Where appropriate, maps and color photographs are also included. As one would expect when a commercial crop is being expanded outside its normal range of adaptation and used for another purpose, there are many areas where information is lacking. Since genetic manipulation was primarily responsible for this expansion, more emphasis on the plant breeding techniques which led to this breakthrough would seem more desirable especially in regard to selection for early maturity. Also, the inclusion of cultivar interactions with soil factors, fertility levels etc. was extremely limited probably because of the scarcity of information. However, the authors make an outstanding effort to integrate information obtained from many diverse experiments.

This book is highly recommended for students and research scientists in all phases of agriculture. It represents not only a valuable reference for those in plant and animal sciences who are interested in forage maize but also emphasizes the many difficulties encountered in the development of a widely-grown commercial crop for a different use outside its normal range of adaptation.

P.L. Pfahler, Gainsville

Setlow, J.K.; Hollaender, A. (eds.): Genetic Engineering, Principles and Methods. Vol. 2
New York, London: Plenum Press 1980. 289 pp., many figs., many tabs. Hard bound $ 32.50

This second volume of the series Genetic Engineering, Principles and Methods, features recent work by internationally-known scientists, work that has been carried out since the publication of volume one in the series in 1979. The series deals with the new technology which may revolutionize the study of biology and may even eventually have the impact that went with the development of microelectronics and silicon chips. Both volumes published so far offer new techniques and information resulting from the newly acquired ability to make particular kinds of precise cuts in DNA molecules.

The use of recombinant DNA methodology in approaches to crop improvement is illustrated in this second volume by the problems of protein quality in maize, while another chapter deals with the cloning of repeated sequence DNA from cereal plants in an attempt to gain more information on the structure and evolution of plant genomes. Further chapters follow on the production of monoclonal antibodies, assessment of messenger RNA concentration by DNA probes, DNA cloning with single- and double-stranded phage vectors and DNA cloning in mammalian cells with SV 40 vectors. Bacterial plasmid cloning vehicles are discussed at length, including chapters on molecular cloning in *Bacillus subtilis* using the plasmids of *Staphylococcus aureus*, and a very extensive chapter written to provide a concise explanation of the simple ways in which lambda phage can and is being used to clone DNA, and to provide an up-to-date catalogue of lambda vectors now available, together with restriction maps of all the published vectors.

There is a wealth of information to be gained from this book, with enormous benefit to researchers in the fields of biochemistry, genetics and molecular biology.

J.F. Jackson, Glen Osmond