
Book Reviews

Gevers, H.O.; du Plessis, J.G. (eds.): Proceedings of the Fourth South African Maize Breeding Symposium 1980. Technical Communications Department of Agriculture and Fisheries No. 172. Pretoria: Div. Agric. Inform. 1981. 100 pp., 36 figs., 26 tabs.

Maize is South Africa's most important agronomic crop and, as a result, generates much research interest including government sponsorship of periodic maize breeding symposia. The central theme of this fourth symposium was breaking the yield barrier. Under the circumstances, this was an appropriate topic since a shortage of arable land exists in South Africa and future production increases to feed their expanding population must be obtained with little or no increases in area. A high percentage of the increase will also have to arise from genetic rather than cultural improvements because the increased demand and cost of energy severely limits additional management inputs. The speakers and delegates represented many disciplines including plant breeders, geneticists, physiologists, soil and crop scientists, plant pathologists, and entomologists from South Africa, Europe, and the United States. The book contains 3 sections: Section 1 – Breeding and evaluation, including papers on the implications of genotype \times environment interactions, the uses of exotic germplasm sources, and the potential of tissue culture; Section 2 – Plant protection with papers on disease and insect resistance; and Section 3 – Breaking the yield barrier with papers on the value of

additional management practices, analysis of physiological barriers to photosynthetic efficiency, uses of genetic factors which modify plant morphology and development, and the future of nitrogen fixation in cereals. In general, one could reasonably expect that a symposium of this type would be somewhat limited in academic significance, scope and application because of its regional emphasis. Although the number of attending and contributing scientists was by necessity, limited, the quality and diversity of those selected were extremely high. The topics covered in the symposium and the associated papers and information published in the proceedings were of universal interest not only to academic scientists actively involved in the most recent developments but also applied scientists primarily interested in improved production. The discussions involving the future potential of tissue culture and nitrogen fixation were very current, critically analytical and uncommonly realistic.

This book is highly recommended for research scientists and students in all phases of agriculture. Although the title suggests topics of a more regional and applied nature, the scope of the proceedings is extremely broad and current. The proceedings also serve another major function in that difficulties encountered in South Africa to produce more on the same area with equal or maybe even reduced energy inputs is a universal problem and must be recognized and solved in the near future.

P. Pfahler, Gainesville