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 Book Reviews
 

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**Wijk, A.J.P. van: Breeding for Improved Herbage and Seed Yield in *Setaria sphacelata* (Schumach.) Stapf and Hubbard ex Moss.** Agricultural Rese. Reports, vol. 900. Wageningen: Centre for Agricultural Publishing and Documentation 1980. 147 pp., 5 figs., 11 tabs.

The book under review is the author's doctoral thesis in plant breeding submitted to the Agricultural University at Wageningen. There are seven chapters, a summary, five appendices and a list of references. The first chapter is a general introduction, where the author introduces the tropical pasture grass species, *Setaria*, giving history of development of three varieties Nandi I, II and III along with their characteristics. Chapters 2 and 3 deal with variation for different plant characteristics particularly with relation to digestibility and seed yield, using 121 plants of variety Nandi I at intravarietal level and nine varieties of *Setaria* at intervarietal level. Comparisons were made to evaluate the prospects of breeding for yield of digestible organic matter ( $Y_{DOM}$ ), which is the product of dry matter yield ( $Y_{DM}$ ) and digestibility (%D *in vitro*) and is the most important characteristic in a pasture grass like *Setaria*. Chapter 4 deals with two methods of evaluation giving different results, one based on single spaced plants, and the other based on more natural conditions of growth of an individual plant in a sward of another species. In chapter 5, comparative results on productivity between erect, lax and prostrate habits were presented, demonstrating superiority of erect growth habit both in monoculture and mixed culture.

Chapter 6 is devoted to simultaneous selection for herbage and seed yield based on selection indices calculated from an 11×11 triple lattice and from parent-offspring relationship. This chapter and the concluding chapter 7 devoted to development of a breeding programme for the crop are the most impressive and may be useful for students of plant breeding working on forage grasses. Different appendices at the end of the book contain methods, definitions, selection indices, regression coefficients and heritabilities for different plant characteristics. In the book, chapters have been divided and subdivided into independent introduction, material and methods, results and discussion giving it an appearance of a few research papers, which may not attract a wide spectrum of readers except those working on *Setaria* or at best those working on forage grasses. The book could have been improved in its utility for students of plant breeding in general, had the authors rewritten the whole thing in a more condensed and consolidated form. There are also printing errors in the book, which are not very rare. The book, though of limited use, will prove useful for students working for a Ph. D. thesis and particularly for those working on forage grasses.

P. K. Gupta, Meerut

**Horowitz, N.H., Hutchings Jr., E. (eds.): Genes, Cells, and Behavior.** San Francisco: Freeman 1980. 169 pp., 78 figs., 1 tab. Hard bound £ 7.20.

The book includes papers presented at a symposium held in november 1978 in honour of the 50<sup>th</sup> anniversary of the founding of the Division of Biology at the California Institute of Technology.

In a certain sense this is an historical document showing the many famous biologists and Nobel prize winners who were members of Caltech since its foundation by Th. H. Morgan, the first chairman, and how the engagement of these scientists influenced the development of different branches of biology. On the other hand the book gives an account of some topics of modern biology.

The content is divided into 5 parts: 1. "Biology of Cancer" with overviews of Dulbecco, Temin and Ames (among others), 2. "Phage" with a very instructive introduction by Max Delbrück and the paper of Sinsheimer "OX174, a Research Odysse." The third session "Evolution, Genes and Molecules" spans a wide and heterogeneous range of topics, and Beadle did not speak about the one gene-one enzyme concept but about the origin of maize. Session 4 "Biology of Cells" is informative about animal hormones, immune response and regulation, and morphogenesis. The final session 5 on "Neurons and Behavior", contains an introduction by S. Benzer and a final talk by G. Stent on the leech embryo. The introductions of the session not only give insight into the importance and progress of the scientific topics but also into the development of the qualifications of each speaker.

Reading the book will be valuable for all people interested in biology and gives the possibility to quote Max Delbrück "to reminisce and to reflect, to inform and to amuse, and possibly, by informal talk, permit new ideas to be germinated".

E. Günther, Greifswald

**Ehrman, L.; Parsons, P.A.: Behavior Genetics and Evolution.** New York, St. Louis, Hamburg: McGraw Hill 1981. i-xiv, 450 pp., Hard bound DM 68.90.

Five years after the appearance of their first coauthored book on behavior genetics, the authors deemed it necessary to present a revised edition. Unfortunately, they still divide their material according to methodology and species investigated: this necessitates numerous crossreferences and repetitions. In comparison with the previous volume, the alterations are relatively minor. Each chapter is now concluded with a brief summary and some chapters have been reorganized or rewritten in places. For example, chapter 5 (Many genes and behavior) now includes a section on laterality in three species, chapter 8 (The genetics of behavior: *Drosophila*) contains a section on frequency-dependent mating, and chapter 9 (The genetics of behavior: Rodents) has one on psycho-pharmacogenetics. (Note: on page 223 the anticholinergic drug scopolamine is erroneously called an adrenergic drug). Chapter 14 (Epilog) is largely new. As before, chapters 6 and 7 deal, in a clear and very readable fashion, with quantitative analyses in animals and man. The book's material is drawn from the literature rather selectively, with a bias towards *Drosophila*. However, Burnet's work on this species is conspicuously underrepresented. At various places, the authors rely heavily on secondary sources; at times they seem to have taken pains to avoid citing the original sources. The book contains a bibliography, a name index, and a good subject index.

J. H. F. van Abeelen, Nijmegen