
Book Reviews

The Royal Society (ed.): The Manipulation of Genetic Systems in Plant Breeding. Philosophical Transactions of the Royal Society, B 292. London: The Royal Society 1981. 209 pp. Hard bound £ 21.35.

The Royal Society of London organized in October 1980 a Discussion Meeting which was devoted to the classical methods or ways of handling genetic systems to exploit the potential variation in a wide range of crop plants, and the recently developed new possibilities for genetic manipulation which added a molecular dimension to plant breeding.

Although those new methods are very promising, the effective application in plant breeding is still more a promise, but not yet a reality. In the 20 articles which are the full text of the presentation of the meeting, experts assess the modern methods along with the more classical methods of plant breeding. The starting point was the presentation of the unforgettable C. D. Darlington, actually his last public appearance. Looking over these articles one gets an excellent picture of the actual situation of plant breeding. Nobody working in the field should miss studying this excellent review. It becomes quite clear that the familiar methods of breeding are not yet, and for a long time surely, out of use. The new methods of genetic manipulation will contribute a great deal to exploit the potential variation for a limited range of species; they will also eventually contribute to break-down of species barriers. But the final selection of new variants, with improved properties, still have to be looked for and found in the field experiment. So this book, with its perspectives and prospect given by Sir Kenneth Mather, is valuable not only for university students in genetics, but also for practising plant breeders, who want to have a broad look at the actual situation and have a fresh look at the future.

H. F. Linskens, Nijmegen

Ellenberg, H.: Vegetation Mitteleuropas mit den Alpen in ökologischer Sicht. Stuttgart: Ulmer 1982. 989 pp., 499 figs., 130 tabs. Hard bound DM 120,-.

The reviewer is not competent to judge the merits of this monograph on European vegetation, which is published now in its third edition. He knows only that he will need this very well written, up-to-date and learned book for his teaching and for preparation of field trips with students. Vegetation science has its pull for many biologists, because it unveils the plant world in an unique way: the inclusion of ecological aspects explains the occurrence of distinct species in a certain environment. So this oeuvre contributes to a better understanding of the world. The book in question is based on a life-long scientific exertion to understand the vegetation of Central Europe, for which the author has contributed so much, e.g. in preparation of the UNESCO program Man and Biosphere. Characteristic is the integration of vegetation analysis and ecology. Strange enough, however, on no page in this monograph are genetical implications included in the causal explanation of specific situations! As a geneticist one expects that population genetic aspects, cytogenetic findings, ecogenetic experiences would have been used to elucidate complex local phenomena. This is especially true in the interactions with microorganisms that play an essential role in the European ecosystems and which are treated in an excellent manner. Also, problems such as resistance, adaptation to extreme environments, selection, competition and exclusion could gain a new dimension by including genetic facts well known in ecogenetics.

The "Ellenberg" is a textbook as well as a reference book: it informs as to the tremendous progress vegetation analysis has made during the last 30 years and is of extremely high value for its condensed information. H. F. Linskens, Nijmegen