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Book Reviews

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Tsunoda, H., Gomez-Campo, C.: *Brassica Crops and Wild Allies. Biology and Breeding.*

Tokyo: Japan Scientific Societies Press 1980. pp. 354, 58 figs., 42 tabs. Hard bound

This volume comprises 19 articles by 23 contributors which attempt to cover the systematics, chromosomes, breeding and conservation of Brassica crops and their wild relatives. Over half of the contributors are Japanese, and Japanese work features largely. Most chapters contain substantial amounts of detailed data but make little attempt to give a critical review of the topics covered.

The account of the taxonomy of the tribe Brassiceae by C. Gomez-Campo is based on a series of morphological studies and an unrivalled first-hand knowledge of the majority of the species in the field. A check list is given of the chromosome numbers of over 170 species of the tribe, and the meiotic behaviour of over 50 interspecific hybrids is described in detail by D.J. Harberd and E.D. McArthur. S. Snogerup provides a very good biosystematic account of the wild forms of the *Brassica oleracea* group, which have been a source of considerable taxonomic difficulty. He recognises five taxa within the group which have a broad geographical basis, and suggests that three of these have independently given rise to cultivated forms.

The section on breeding is perhaps the least satisfactory, partly because of some serious omissions. In many parts of the world horticultural Brassica crops are at least as important as the agricultural, but the breeding of Brassica vegetables is hardly mentioned, except for a description of cv. 'Hakuran', a synthetic form of

*B. napus* obtained in Japan by crossing cabbage with Chinese cabbage. The vast majority of  $F_1$  hybrid cultivars of Brassica crops currently available are based on self-incompatibility rather than male sterility, but the chapter on self-incompatibility is too short to do justice to the subject, while the longer chapter on male sterility doesn't adequately discuss the practical difficulties of using it in breeding programmes. The breeding of oil seed crops includes two chapters by G. Röbbelen and W. Thies. Their account of the breeding of oil seed rape low in erucic acid and glucosinolates is a very good example of the way in which the results of basic research into the constituents of rape seed have been successfully applied to breeding improved varieties.

The short section on conservation is a welcome inclusion in view of current concern about genetic erosion and the need for genetic conservation of both crops and their wild relatives. The methods used in Japan for storing Crucifer seeds and testing their viability are described.

This volume resembles 'The Biology and Chemistry of the Cruciferae' (1976, ed. J.G. Vaughan, A.J. MacLeod and B.M.J. Jones) and although it is more up-to-date it is less satisfactory in its general coverage of the field. The absence of an index is a nuisance and makes quick reference difficult. As a collection of research articles with extensive references it will undoubtedly be useful to the specialist, but it cannot be recommended as a whole for the general reader because of uneven coverage and great variation in readability.

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