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BOOK REVIEWS

World Crops: Cool Season Food Legumes: edited by R. J. SUMMERFIELD, Kluwer, 1988. 1179 pp. +xxxviii, £188.

In the preface to 'Tropical Pulses', Smartt (1976) makes the comment "The Green Revolution demonstrated that much more effective use could be made of cereal crops in the tropics than had previously been thought feasible. A similar demonstration is long overdue for the pulse crops". Twelve years later this hope is yet to be realized, but it is clear from the 91 chapters contained in this mammoth volume, that considerable progress has certainly been made with four legume species, namely pea, lentil, faba bean and chickpea.

The book is a compilation of the papers presented at the international Food Legume Research Conference (IFLRC) held in Spokane, Washington, U.S.A., 6–11 July 1986. The conference was organized to assess international research efforts on cool season food legumes, and to debate the development of strategies for their improvement.

The chapters have been arranged into 16 sections, reflecting the organization of the conference itself, and are more or less equally divided between them. The first of the sections (6 chapters) describes the programmes of the international organizations (USAID, FAO, IDRC, ICARDA, ICRISAT and IBPGR), and two of these, ICARDA and ICRISAT have global mandates for research with lentil and faba bean, and chickpea respectively. This introductory section gives the reader a broad perspective on many of the problems facing food legume improvement throughout the world.

The other 15 sections cover genetic resources (7 chapters), cropping systems (10), management and tillage (5), harvesting and storage (5), processing and utilization (5), economics, marketing and policies (4), biotic limitations (7), integrated pest management (3), *Rhizobium* and nitrogen fixation (7), carbon and nitrogen economy of nodulated legumes (5), environmental stress (5), physiology (5), breeding and biotechnology (7), regional reports (8), and retrospect and prospect (2). Although the chapters have been grouped into these discrete sections, there is clearly considerable overlap between them. For instance, the reader interested in legume agronomy will find relevant information included in the sections on cropping systems, management and tillage, biotic limitations, integrated pest management, and environmental stress. The sections on *Rhizobium* and nitrogen fixation and the carbon and nitrogen economy of nodulated legumes are clearly linked, but the chapters on breeding for enhanced nitrogen fixation, and the effect of agricultural practices on nitrogen fixation must also be considered in this context.

The size of the book, and the fact that there is no subject index, makes browsing particularly difficult. The reader is therefore recommended to read the last two chapters first. One of these by Hugh Bunting is a personal review of the conference, which gives a good guide to the more detailed chapters. The final chapter outlines the objectives of the IFLRC, and future proposals for the coordination of research on these important food legumes.

Anyone interested in food legumes will find a wealth of useful, up-to-date information in this book. The chapters are reviews rather than reports of specific pieces of scientific research, and the extensive literature cited in each chapter is extremely valuable. Undoubtedly it will become a key text for legume researchers, for several years to come. However, its high cost will prevent it finding a wide market other than in libraries. For the phytochemist, this is not a book from which it is easy to glean useful information, because of the lack of a suitable index. The chapters on nitrogen fixation and biochemical and physiological factors affecting this, as well as discussions of the biochemistry of different genotypes with regard to insect resistance (antibiosis) or nutritional value, as well as molecular aspects of crop improvement, will however be of interest.

The editor is to be commended for ensuring that the book was sent to press one year after the conference. The presentation is of a high quality, and although this reviewer cannot claim to have read the book in its entirety, there do appear to be very few typographical errors.

REFERENCE

Smartt, J. (1976) *Tropical Pulses*. Longman, London.

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