interpretation and diagnosis can be made only when based on good (*i.e.* accurate and reliable) analytical results.

The total 107 literature references which are quoted in Chapter 3 come mainly from the seventies (32) and eighties (32), as many as 27 being very old (prior 1970). Only 15 % can be called recent (nineties). This statistics should have reflected better an extensive experimental development and publishing boom in the area covered by Chapter 3.

Chapter 4 is a clear and comprehensive support of following tables with nutrient status of crops. Unfortunately the editors have not made any comparison of plant analyses with other methods optimising plant nutrition, in particular with available pool of nutrients in soil.

The following six Chapters 5 - 10 are organised into simple tables which consist of plant scientific and common name, elements analysed, growth stage and part of plant sampled, type and country of experiment and number of reference. Concentration range of element is divided into six subgroups starting from deficient trough marginal and critical to adequate and further to high and toxic. Crops are divided into six groups by similar properties, and plants grown from tropical to temperate region are described here. In this extremely wide and comprehensive material we miss one more column with abbreviation of climate belonging to each experiment, because the effect of temperature and moisture could be significant for element concentration in plants. Chapters 9 and 10 will partly eliminate a paucity of data for two groups of plants. There is the only disadvantage of presented nutrient status that majority of experiments was done at Australian and New Zealand fields and should be firstly verified for crops of temperate climate before massive use. Authors of an interpretation manual have only sorted element concentration into six zones showing nutrient status in specific growth stage, but they did not introduce any nutrient recommendation for any crop and element.

Plant Analysis Manual summarises the interpretation guidelines for plant tests and is a valuable resource for agronomists, horticulturists, foresters, consultants, and of course for university students in related disciplines.

P. MADER, P. TLUSTOŠ (*Praha*)

Maxted N., Ford-Lloyd B.V., Hawkes J.G. (ed.): **Plant Genetic Conservation. The *in Situ* Approach.** - Chapman & Hall, London 1997. 446 pp. GBP 24.99. ISBN 0-412-63730-8.

The Chapman & Hall continue in the consistent policy of publishing books which have a potential of becoming widely recognized by practitioners and at the same time having the most up-to-date scientific background. Cronk & Fuller's *Plant invaders* and Martin's *Ethnobotany* can be considered as predecessors of the present volume. It was compiled by a team of lecturers from the University of Birmingham, UK, who managed to bring together an international set of contributors. Majority of them come from UK, Israel and United States, but some developing countries are represented as well, which seems particularly important for a volume focused on conservation of global biodiversity and agriculture. The signing of Biodiversity Convention at the Earth Summit in 1992 drew need to conserve and utilize biological diversity for the benefit of all mankind. The main shift in the approach to the conservation, having started in the mid eighties, is that from *ex situ* techniques to *in situ* approaches. The former are represented by moving the genetic diversity from its original location for safe storage while the latter focuses upon conserving the diversity in natural environment. Agricultural approaches, *i.e.* to conserve the genetic diversity of crops and their wild relatives, are meeting with botanical and ecological aspects of conserving wild species in natural habitats. This book provides an array of practical techniques and body of theoretical knowledge to *in situ* conservation of plant genetic resources.

The introductory section contains an overview of principles applicable to conservation of botanical diversity. Using alarming numbers on extinct and threatened species in particular floras, Prance stresses the well-known principle of saving both species and ecosystem. The role of *ex situ*

conservation is to be mobilized when destruction of habitats has gone too far or in the case of island species whose natural environment has been irreversibly transformed by plant invasions and animal introductions. Our responsibility of keeping threatened species alive is emphasized. Maxted *et al.* review conservation strategies, listing systematically both *in situ* and *ex situ* approaches and evaluating their pros and cons. Twelve papers in Part II "Theory and practice of *in situ* conservation" constitute valuable scientific background to genetic conservation. The choice of target taxa is the first step and this issue is addressed in the paper by Maxted and Hawkes, who consider scientifically and economically relevant principles of assessing the value of a species. The important message is that conservationists will always have to prioritize and select taxa to be actively conserved. Further step, *i.e* the assessment of areas and habitats that are likely to contain genetic diversity of the taxon should be based on ecogeographic surveys, and the chapter by Maxted and Guarino reviews the methods which can be used to select such regions. Williams highlights existing technical and political constraints to reserve placements. One of the key chapters was written by Lawrence and Marshall. They provide us with an outline of the population genetics theory and its relevance to the conservation of genetic diversity. Gillman's review of population ecological dynamics completes the mosaic of issues forming the necessary scientific background of *in situ* conservation. Among other chapters in this sections are those devoted to reserve management, estimation of genetic diversity or plant-insect relations. Section III consists of case studies on conservation of diversity in various parts of the world, including Israel, Turkey, Indonesia, Ethiopia, Peru or Central Asia. This part is particularly interesting as it confronts the "state of the art" in various regions of the globe. Overall conclusions concern practical application of conservation strategies. Maxted *et al.* present a practical model for *in situ* genetic conservation. Two distinct *in situ* techniques are defined. The former, *i.e.* "genetic reserve conservation" consists of location, management and monitoring of genetic diversity in natural wild population within defined areas designated for active, long-term conservation. The latter, so-called "on-farm conservation" is defined as sustainable management of genetic diversity of locally developed traditional crop varieties with associated wild and weedy species, practised by farmers who use traditional cultivation systems. Both approaches are complementary. Future venues are outlined in the concluding contribution by Hawtin and Hodgkin.

Plant genetic conservation is a book which makes an important step to goals that can only be achieved by multidisciplinary approaches. It is a solid contribution to the global biodiversity problem, to its description, understanding, and even better, to its solution.

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Page, C.N.: **The Ferns of Britain and Ireland, 2nd Edition.** - Cambridge University Press, Cambridge 1997. 540 pp. ISBN 0-521-58658-5.

After fifteen years from the first edition, an enlarged 2nd edition of Page's work about pteridophytes of Britain and Ireland has been published. The book reflects the author's broad experience with this group of plants. The book compiles results of author's own intensive research as well as results of his collaboration with other specialists. Main emphasis is given on the determination and information about the distribution and ecology of the treated taxa in the region.

The book has been elaborated in a slightly non-traditional way. It has been compiled as a well-arranged determination tool, however, it does not contain the classical dichotomous key to identify a particular taxon. Using six determination diagrams plant specimens can easily be sorted into groups of taxa, or directly determined to generic or even specific levels. To a preliminary determination a multi-access key can also be used, where conspicuous morphological and ecological characters refer to corresponding lists of species and hybrids. The final determination is achieved when specimens are compared with text characteristics of particular taxa referred to from the diagrams and with the pictures. Such an approach is justified especially in the difficult taxa and in groups of frequent occurrence of hybrids to which pteridophytes surely belong.