

Dashek, W.V. (ed.): **Methods in Plant Biochemistry and Molecular Biology**. - CRC Press, Boca Raton - New York 1997. ISBN 0-8493-9480-5. 457 pp.

As W.V. Dashek states, this manual was written "for the trained scientist performing research in a college, industrial or federal laboratory". To achieve this purpose, he asked a total of 35 specialists for contributions. Except two persons from Canada and two from Sweden, all the others work in the laboratories of different institutions all over the USA. Since the book includes a complete index of authors, I shall discuss individual chapters of the book without stating the names of the authors.

The comprehensive manual is composed of four parts (Structure, Chemistry, Metabolism, Plant Molecular Biology). Thus, the first three parts are devoted more to plant biochemistry and the last one to molecular biology.

Part I (28 pp.): The Structure part tackles the methods of analysing the plant cell and tissue ultrastructure, carpogenesis and basidiosporogenesis, decolorization of wood sapstain. Several chapters are directly related to photosynthesis (Chlorophyll Pathway in Higher Plants, Plant and Algal Pigment-Protein Complexes). The remainder discusses immunoassay in plant-related disease and photoaffinity labelling with 5-azidoindole-3-acetic acid.

Part II (260 pp.): Chemistry is oriented to analytical methods for various plant metabolites, namely carbohydrates, phospholipids, plant nucleic acids, organic acids, cytokinins and other plant growth regulators, terpenoids, alkaloids, phenolics, lignin, flavonoids, elicitors, plant vitamins, oxalate decarboxylase. This part is doubtless very useful, although its chapters deal mainly with "classical" so-called plant biochemistry of the nineteen fifties and sixties. In textbooks and manuals aspiring to be very recent, classical methods may sometimes be neglected or even scorned. For this reason I highly esteem the editor, who after many years once more offered the reader a set of methodological tools which everybody needs from time to time, is forced to search for such in the older literature and would possibly employ analytical methods, of which many are nowadays truly obsolete in terms of sensitivity, accuracy, specificity as well as instrumentation.

Part III (72 pp.): Metabolism includes chapters on respiration in potato tuber mitochondria, biosynthesis of cell wall polysaccharides, plant proteins: polyphenol oxidase, assay of carbohydrate, fatty acid metabolism, plant hormone metabolism, lignin degradation, and cDNA library construction.

Part IV (82 pp.): The Plant Molecular Biology part is the shortest one as far as the number of chapters is concerned, and therefore I shall cite the full titles of the chapters (Plant Transformation Techniques and Vectors, Restricted Fragment Length Polymorphism, Amplification of DNA and Gene Isolation, Molecular Analysis of *cis*-Acting Transcriptional Regulatory Elements and Transcriptional Factors in the Bean Storage Protein Phaseolin Gene, Manipulation of Plant Gene Expression Using Antisense RNA).

Added to the text is a very comprehensive general index.

The list of sections and chapters shows that the manual will satisfy all who wish to make their library, knowledge, or both more complete in respect of modern methods of plant biochemistry and molecular biology.

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