

# Modern Methods of Plant Analysis

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Edited by : K. Paech and M.V. Tracey

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by

*K. Paech and M.V. Tracey*

Many outstanding advances in modern biology have been made as a result of the invention and application of efficient methods. This does not necessarily mean that we are living in an age of methods but every stride towards the solution of an important biological problem has been, and will have to be, prepared by the forging of the appropriate method. There are not very many 'classical' techniques that have become part of the standard equipment of biological research. Again and again chemistry and physics provide more specific, more exact, and more convenient analytical devices that are taken over by biochemists and modified to suit plant material. If published in purely analytical journals these recent methods are hidden in a welter of other methods applying to all fields of analysis from petroleum to heavy metal alloys. When they appear in the methods section of papers on specialized biochemical subjects they may be obscured by a title and discussion giving no hint of the presence of a valuable method or of its general applicability. As a result new methods very often do not immediately reach those manifold groups of research workers to whom they would be of the greatest use.

These are the considerations that led to the plan of this handbook. We are convinced that there is a real need for a collection of reliable up-to-date methods for plant analysis in large areas of applied biology ranging from agricultural and horticultural experiment stations to pharmaceutical and technical institutions concerned with raw materials of plant origin.

A part from the study of plant metabolism in which analytical methods are essential many branches of pure botany, originally not concerned with the chemical composition of plants, have developed in such a way as to depend on accurate knowledge of the nature and amounts of plant constituents. This applies among others to genetics, the physiology of growth, and taxonomy.

The scattered publication of analytical methods and lack of experience in judging chemical methods makes it hazardous for many of the newcomers in the field of plant analysis to find or select the best available methods for their purposes. The collection offered in this handbook may help to pave the way for tackling problems in those fields of pure botany where chemical components are useful as indicators of the varied activities of the living plant cell.

It is not in the scope of this work to produce a handbook of plant metabolism or a biochemical system of plant substances. Had it been, then the structure of the book and the arrangement of the contents would have been more logical than that which has been imposed by the purely analytical considerations that prevail in the present work, for example, mineral substances could not have been separated from many other sections. The ambition of the editors, however, was to produce a laboratory manual of the highest standard possible.

The authors of the various chapters undertake the task of discussing the detailed techniques of analysis in such a way that the user of these volumes will be able to make the greatest use of the authors' experience and knowledge of experimental biochemistry. The purpose of the work is furthered by the fact that the authors have avoided discussing problems of the biogenesis and metabolism of the substances with which they are concerned, tempting and fruitful though these physiological considerations may have appeared to them.

Volume I concerned with analytical methods of general application. Volume VI is concerned with adding to the range of groups of compounds dealt with in Volumes II-IV. Volume V is supplement to up date the Vol. I. Volume VI deals with treatment of general methods of enzyme chemistry while in Vol. VII deals with individual groups of enzymes.

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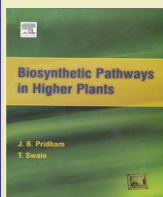
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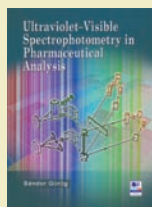
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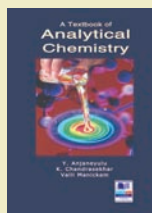
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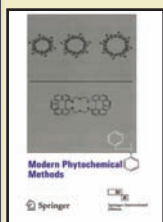
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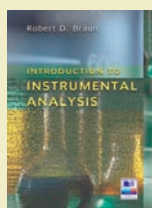
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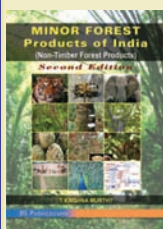
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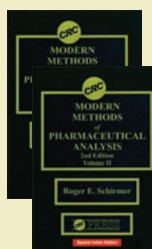
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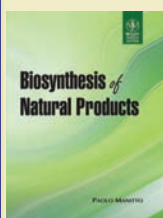
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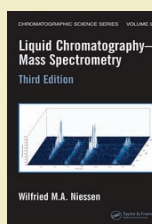
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