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BOOK REVIEW

BERLYN, G. P., MIKSCH, J. P.: *Botanical Microtechnique and Cytochemistry*. — The Iowa State University Press, Ames, Iowa, USA. 1976, 326 pp., 127 fig., price \$ 13.50.

The present book is actually a greatly reworked and extended edition of the Botanical Microtechnique (John E. Sass, 1958, The Iowa State Univ. Press). It has been conceived as a training manual and not as a reference book. Each topic therefore begins at an elementary level and proceeds to more advanced considerations. The first chapter is an elementary introduction to the most indispensable instrument used in plant cytology, anatomy *etc.* — the microscope. The following chapters deal with the more detailed principles of optics and microscopy, the types of microscopy (phase-contrast, interference, polarized light, fluorescence, electron microscopy) and with photomicrography. A special section is on cinemicrography, which can be a very powerful microtechnique and is expected to have an increased utilization in the future. The preparation of objects for microscopic studies are described in chapters on 1) collecting and subdividing plant material, 2) fixation and storage, 3) processing and embedding, 4) microtomy, 5) staining paraffin and plastic sections and 6) preparations of whole mounts and macerations. Modern methods of cytochemistry for quantitative and qualitative studies of nucleic acids, proteins and other cellular constituents, are presented in a form of laboratory manuals. Special attention is devoted to analytical methods for DNA determination within a plant cell, where *e.g.* combination of biochemical extraction and microspectrophotometry is desirable for the procurement of reliable data. The chapter "Cytochemistry" also deals with autoradiography and enzyme localizations. It is a pity that the modern and widely used methods of chromosome squashes and chromosome banding are described so briefly.

This book is designed for future teachers and researchers as an introduction to the basic principles of microtechnique and cytochemistry.

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