
This manual was developed in conjunction with the crops course taught at Colorado State University over a period of years, and it strongly reflects both the regional cropping pattern and the nature of the course.

After two brief chapters dealing with morphology and germination tests, the manual proceeds to a consideration of: Crops of the Grass Family; Crops of the Legume Family; Crops of Other Botanical Families.

Most of the exercises deal with morphology, both basic and as applied in keying species and varieties. Important varieties of small grains and sorghum are individually described. Cultural practices, physiology, disease and insect problems, and plant breeding receive little or no attention.

A fairly lengthy glossary is appended to assist the student with the terminology employed in the exercises. In view of the heavy emphasis on taxonomic information in the body of the manual, the glossary is essential to the beginning student and highly useful even to the more advanced student (as for example a teaching assistant).

The manual appears to be closely geared to material in Martin and Leonard's excellent "Principles of Field Crop Production", and would certainly be of limited value without extensive supplemental information from a comprehensive text or lecture, together with a source of well-chosen drawings.

The present edition suffers from a large number of typographical errors.—Madison J. Wright, Pennsylvania State University.


This volume contains a prefatory chapter and 18 comprehensive reviews (chapters) on many phases of plant physiology by 26 authors with 2,986 literature citations. Emphasis is placed on recent advances in each subject area.

Subjects, authors, and a very brief statement on the contents of each chapter follow:

Prefatory Chapter, Plant Physiology and Horticulture (W. H. Chandler) discusses the application in selected horticultural field trials (fruit trees primarily) of results of laboratory research. Foliar Absorption of Mineral Nutrients (S. H. Wittwer and F. G. Teubner) reviews mechanisms and factors affecting absorption; transport and mobility, metabolism and leaching of foliar-applied nutrients and crop response to these nutrients. Leaf Proteins (N. W. Pirie) considers leaf proteins as potential source of human food, problems and methods of study, preparation and extraction. Light-induced Reaction of Bacterial Chromatophores and Their Relation to Photosynthesis (Albert W. Frenkel) is concerned primarily with light-induced reactions carried out by chromatophores, makes comparisons with chloroplast reactions and relates photo-reactions of cell-free preparations to photosynthetic activities of intact cells. The Structure of the Chloroplast (Jerome J. Walker) gives special attention to chloroplast structure, composition, and synthesis of its proteins and pigments and how these data relate to growth and structural development. Active Transport of Salts Into Plant Tissue (George G. Laties) discusses the initial rapid phase of absorption, adsorption exchange in relation...