Kruger, N.J., Hill, S.A., Ratcliffe, R.G. (ed.): **Regulation of Primary Metabolic Pathways in Plants.** - Kluwer Academic Publishers, Dordrecht - Boston - London 1999. 312 pp. NLG 300.00. ISBN 0-7923-5494-X.

This book is the proceedings of an international conference held on 9 - 11 January 1997 at St Hugh's College, Oxford under the auspices of the Phytochemical Society of Europe. The book is dedicated to the memory of Professor Tom ap Rees, an inspirational research scientist and teacher, who influenced the work of many of those attending the meeting. The main purpose of the meeting was to review the recent progress in the area of primary plant metabolism with an emphasis on the extent to which molecular techniques now influence research in the processes related to the dominant pathways of carbohydrate production and utilization.

The topics of fourteen chapters, which constitute this volume, belong to three broadly overlapping areas of investigation. The opening chapters focus on present knowledge about the structure, active site, function and regulation of several key enzymes such as ribulose-1,5-bisphosphate carboxylase/oxygenase, alternative oxidase, and phosphoenolpyruvate carboxykinase. The second section of the book concentrates on metabolic pathways integrating different cell compartments, cells, tissues and organs. This part includes chapters on folate synthesis and metabolism in plants, structure and function of metabolite translocators, overview of over present understanding of the regulation of intermediary metabolism within plastids, carbon flux to fatty acids in plastids, and compartmentation of metabolites. The final part presents the chapters reviewing attempts to manipulate some of the main pathways and difficulties, which can arise from this manipulation. This part contains the most interesting contributions. They describe new information derived from studies of mutant and transgenic plants and bring new models for, *e.g.*, regulation of starch synthesis, fructan metabolism, transgenic tuber metabolism, and potential strategies for increasing metabolic flux.

All contributions are organized as research articles including abstracts, key words, illustrating figures, tables, and numerous references. The most of them are well written and there are no significant differences in the quality of the chapters. All chapters, written by active researchers, present a relatively up-to-date summary of what has been achieved, and in some cases point out directions for future research.

To summarize, the information content of this book is high and timely. It will be useful, as the editors aim, as a state-of-the-art overview of the subject area. Both students and researchers will find it an essential source book.

H. SYNKOVÁ (*Praha*)