

Lambers, H., Cambridge, M.L., Konings, H., Pons, T.L. (ed.): **Causes and Consequences of Variation in Growth Rate and Productivity of Higher Plants.** - SPB Academic Publishing, The Hague 1990. 364 pp. Hard cover NLG 175.00.

This book consists of 21 contributions that represent "a distillation of the papers and discussions of a workshop held in Utrecht, The Netherlands in December 1988" (quoted from the Acknowledgement). The 21 papers were written by 32 authors, namely from The Netherlands (20), UK (4), Austria (2), Argentina (1), Australia (1), Belgium (1), Japan (1), Poland (1) and Sweden (1).

The 1st contribution (written by H. Lambers, N. Freijssen, H. Poorter, T. Hirose and A. van der Werf) deals with productivity from the point of view of both the growth analysis and nitrogen productivity. It also characterizes the subject matter of the volume. In the subsequent 2nd (A.H.J. Freijssen and B.W. Veen) and 3rd (A.J.S. McDonald) chapters, phenotypic and interspecific variation in growth rate and its parameters have been analysed. Genetic variation of productivity components as illustrated with the data on *Populus* (R. Ceulemans) and wheat (A.J. Barneix) have been treated in contributions 5 and 6, respectively. H. Konings (contribution 7) has analysed differences between plants with a high net assimilation rate (NAR) and a high leaf area ratio (LAR). The importance of the specific leaf area has been evaluated in the contribution 8 (P. Dijkstra). V. Korner and S. Pelaez Menendez-Riedel compare the phenomena of plant development with those ones of the growth. Nitrogen partitioning and its effects on photosynthesis of leaves (J.R. Evans) and canopy (T.L. Pons, F. Schieving, T. Hirose and M.J.A. Werger) have been described in contributions 10 and 11. An analysis of the importance of the respiration for the NAR and biomass production (E. Kraus, D. Wilson, M.J. Robson and C.J. Pilbeam) and its biochemical background (H. Lambers and A. Rychter) may be found in the 12th and 13th contributions. Two papers have been devoted to the roots, namely the 14th one dealing with the root respiration (A. van der Werf, T. Hirose and H. Lambers) and the 19th one (R. Boot) dealing with the significance of roots for nutrient acquisition. Some problems of nutrient losses from the plant have been described in the 17th contribution by F. Berendse and W.T. Elberse. J.F. Farrar (paper 15) has compared slow-growing and fast-growing species. A detailed discussion on the species adaptation and productivity variation among populations characterizes the 16th paper (J. van Andel and A. Biere). Ecological aspects of the nitrogen use efficiency and availability have been described in paper 18 (R. Aerts). The 20th paper (W.J. Baas) summarizes the physiological and ecological significance of secondary metabolites of plants. An unusual 21st chapter (M. Dicke and M.W. Sabelis) deals with the plant defence against herbivores and is attractively entitled "Does it pay plants to advertize for body guards?".

The individual papers do not strictly follow a uniform structure. They contain both an analysis of the experimental data and general considerations. Each contribution makes it possible to identify qualities, experience and way of thinking the author's qualities, more clearly than some other publications do.

The book is devoted to studies on plant productivity, i.e. to the topic which is often (and wrongly) considered no more important one because of the production surplus in Western Europe. The book contains a good summary of data and philosophy for those who have their own experience with some of the described topics. But I would recommend it also to those interested in quite different fields of the experimental plant biology. By studying or simply reading with curiosity the appropriate paper(s), most of us could get not only an interesting and new information but also stimuli for new ways of looking at the problems of our research interest. We shall also be able to discover unexpected adventures offered by studying plant growth and productivity. The publication should be at our immediate disposal for finding both experimental facts and biological ideas.

Such a survey cannot replace the table of contents or even the key points, the data and ideas from the reviewed volume. More space would be needed. But if my attempt at characterizing this book provokes interest the readers interest to get acquainted with the content in greater detail I have succeeded in what I wanted to achieve by this review.

L. NÁTR (*Praha*)