Baluška, F., Čiamporová, M., Gašparíková, O., Barlow, P.W. (ed.): **Structure and Function of Roots**. (Developments in Plant and Soil Sciences. Vol. 58). - Kluwer Academic Publishers, Dordrecht - Boston - London 1995. 352 pp. Dfl. 300.00, US $ 195.00. ISBN 0-7923-2832-9.

This book presents contributions to the Fourth International Symposium on Plant Roots held in High Tatra mountains of Slovakia in June 1993. Slovak "Root Meetings" became a successful tradition (the first one was in 1971) and attracted a broad international audience. This book summarizes the present status of knowledge related to structure and function of primary root tissues and their cells. All five subject areas that were presented at the Symposium are covered in the book. The first "Structural aspects of root growth and development" contains 14 contributions. They are focused on root anatomy during early root development, root hair formation, effects of phytohormones and exogenously applied growth regulators on root structure, modelling of branching, *etc.* The second part "Absorption, transport and utilization of ions" (11 contributions) deals mainly with nitrogen and phosphorus nutrition. Membrane vesicles seem to be useful tool for determination of ions transport through individual root cell membranes. The importance of vesicular-arbuscular mycorrhiza for plant nutrition is also taken into account. On the other hand, avoidance or tolerance of heavy metals is other important task presented here. The third part "Absorption and transport of water" contains only four contributions, but the first contribution is the introductory chapter containing basic survey of the whole area (it is a pity that these surveys are missing in the other parts). As it is shown in this and other contributions great progress in the recognition of the mechanism of water transport has been done in the last years and the use of the pressure probe has significantly contributed to it. The fourth part "Root-shoot interaction" (5 contributions) concentrates on role of hormones, especially abscisic acid, in root-shoot communication. In addition, the first chapter of this part excellently show nitrogen and carbon flow and ion concentrations as affected by nitrogen source and salinity. Nutrition and translocation in plants under *in vitro* conditions are also presented. The last part "Roots under stress conditions" (12 contributions) dealing with the structure and function of roots affected or acclimated to infection, herbicides, mechanical impedance, salinity, heat, freezing, heavy metals, pollution, *etc.*, is not less important.

The book, as other volumes of this series, is well produced. It can be recommended to everybody searching up-to-date information concerning root anatomy and physiology.

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