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BOOK REVIEW

WARDLAW, I. F., PASSIOURA, J. B. (ed.): **Transport and Transfer Processes in Plants.** — Proceedings of a Symposium held in Canberra, Australia, December 1975. — Academic Press, New York—San Francisco—London 1976. 484 pp. £ 19.50.

The proceedings of a symposium in which 90 participant took part bring 39 papers (chapters) in three sections: Short Distance Transport, Long Distance Transport and Integrating Systems.

The introductory paper by Evans discusses the relation between transport and distribution in plants. In the short-distance-transport section papers on symplastic transport (Gunning and Robards), mass flow (Walker), cytoplasmic streaming (Williamson), transfer cells (O'Brien), movement from host to parasite (Jones), accumulation of starch (Jenner), uptake by roots (Pitman, Cram), symplasmic transport to the xylem (Läuchli), electrophysiology of roots (Anderson), model of potassium influx (Glass), potassium translocation (Dunlop and Tomkins), auxin transport (Newman and Sullivan), IAA lateral transport (Jarvis and Field), phloem loading (Geiger), transfer of sorbitol (Bieleski), metabolite transfer in C_4 plants (Hattersley, Watson and Osmond), transfer to guard cells (Raschke) are included.

Long-distance-transport papers deal with vascular pattern in higher plants (Zimmermann), histochemical approach in translocation (Fisher), P-protein in sieve tube elements (Dempsey, Bullivant and Bieleski), solutes recovered from xylem (Pate), movement of viruses (Helms and Wardlaw), stomatal behaviour and long distance transport (Allaway), water transport through plants (Kaufmann), translocation from source leaf (Christy and Swanson), translocation in leaves (Troughton), sink leaf diffusion equation (Passioura), and mathematical models of Münch pressure flow (Christy).

Papers on integrating systems of translocation were devoted to the control of water movement through plants (Passioura), assimilates partitioning (Wardlaw), distribution of assimilates and sink-source geometry (Cook and Evans), sink, stomatal physiology and photosynthesis (Kriedemann, Loveys, Possinghamand, Saton), transport of regulators in phloem and xylem (King), hormonal-directed transport of metabolites (Patrick), nutrient mobilisation and cycling (Pate), and remobilization of nutrients (Loneragad, Snowball and Robson). A short but stimulating discussion on integrating systems serves as Conclusion.

It was evidently an extremely interesting symposium and the publication of this very comprehensive book is meant to transfer up-to-date knowledge to those who could not take part in it.

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