1. Record Nr. UNINA9910784548003321

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Titolo	Vascular transport in plants [[electronic resource] /] / N. Michele Holbrook, Maciej A. Zwieniecki
Pubbl/distr/stampa	Amsterdam ; ; Boston, : Elsevier Academic Press, c2005
ISBN	1-280-62847-2 9786610628476 0-08-045423-2
Descrizione fisica	1 online resource (597 p.)
Collana	Physiological ecology series
Altri autori (Persone)	ZwienieckiMaciej A
Disciplina	575.7
Soggetti	Vascular system of plants
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	front cover; copyright; table of contents; front matter; Contributors; Preface; Acknowledgment; body; Part I Fundamentals of Transport; 1 Perspectives on the Biophysics of Xylem Transport; The Biophysics of Sap Ascent in the Xylem; Chapter 1 Discussion; Chapter 1 References; 2 Physiochemical Determinants of Phloem Transport; Structure-Functional Basics of Phloem Transport; Generation of a Hydraulic Pressure Gradient in Collection Phloem; Maintenance of Hydraulic Pressure Gradient in Transport Phloem; Manipulation of the Hydraulic Pressure Gradient in Release Phloem; Radius of the Sieve Tubes Viscosity, Sugar Species, and Concentrations in Sieve TubesPhysiochemical Relationship Between Xylem and Phloem Pathway; Chapter 2 Concluding Remarks; Chapter 2 Notations; Chapter 2 References; 3 Pathways and Mechanisms of Phloem Loading; Minor Veins; Transport Between Mesophyll Cells; The Role of Phloem Parenchyma Cells; Entry into the SE/CCC via the Apoplast; Entry into the SE/CCC via the Symplast; Symplastic Phloem Loading by the Polymer Trap; Mixed Loading; Solute Flux Between Companion Cells and Sieve Elements; Solute Exchange Between the Phloem and Flanking Tissues; Chapter 3 Conclusion Chapter 3 AcknowledgmentsChapter 3 References; 4 Stomatal Control and Water Transport in the Xylem; Origins of the Association Between Stomata and Xylem; Biophysical Properties of Stomata and Xylem;

Linking Hydraulics with Gas Exchange; Chapter 4 Summary; Chapter 4 References; Part II Transport Attributes of Leaves, Roots, and Fruits; 5 Leaf Hydraulics and Its Implications in Plant Structure and Function; Leaf Hydraulic Conductance in the Whole-Plant System; How Does Water Flow from the Petiole to the Sites of Evaporation?; Coordination of Kleaf, Venation System Design, and Leaf Shape
Coordination of Kleaf and Leaf Water StorageCoordination of Kleaf with Other Aspects of Leaf Structure, Carbon Economy, and Drought Tolerance; Variability of Kleaf Across Environments, Diurnally, and with Leaf Age; Chapter 5 Summary of Directions for Future Research; Chapter 5 Acknowledgments; Chapter 5 References; 6 Interaction of Phloem and Xylem During Phloem Loading: Functional Symplasmic Roles for Thin- and Thick-Walled Sieve Tubes in Monocotyledons; Structural Considerations of the Loading Pathway; Role of Thin- and Thick-Walled Sieve Tubes
Experimental Evidence for Apoplast/Symplast Transfer Between Xylem and PhloemChapter 6 Concluding Remarks; Chapter 6 Acknowledgments; Chapter 6 References; 7 Water Flow in Roots: Structural and Regulatory Features; Structural Components of the Radial Pathway; Regulation of Radial Hydraulic Conductivity by Aquaporins; Regulation of Root Axial Hydraulic Conductivity; Chapter 7 Conclusions and Directions for Future Research; Chapter 7 Acknowledgments; Chapter 7 References; 8 Roots as an Integrated Part of the Translocation Pathway; Root Growth and Solute Deposition
Roots Have Symplastic and Apoplastic Domains of Unloading

Sommario/riassunto

Vascular Transport in Plants provides an up-to-date synthesis of new research on the biology of long distance transport processes in plants. It will be a valuable resource and reference for researchers and graduate level students in physiology, molecular biology, physiology, ecology, ecological physiology, development, and all applied disciplines related to agriculture, horticulture, forestry and biotechnology. The book considers long-distance transport from the perspective of molecular level processes to whole plant function, allowing readers to integrate information relating to vasc

2. Record Nr. UNINA9910557727903321

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Titolo	- and -Hole Interactions
Pubbl/distr/stampa	Basel, Switzerland, : MDPI - Multidisciplinary Digital Publishing Institute, 2021
Descrizione fisica	1 online resource (212 p.)
Soggetti	Biology, life sciences Research & information: general
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	This book describes unconventional noncovalent interactions and analyzes their importance for crystal growth in organic and hybrid organic-inorganic systems. Several examples illustrate how the combination of theory and experiment allows rationalizing the strength and directionality of noncovalent interactions. This book elegantly describes the results of a survey of X-ray structures of main group element compounds (M = Sn, Pb As, Sb, Bi, and Te) exhibiting intermolecular M•••Se noncovalent interactions in one of its chapters. Moreover, it provides a consistent description of noncovalent interactions, covering most groups of the periodic table. The interactions are described and discussed using their trivial names. That is, a comprehensive and accurate description is provided for alkali, alkaline earth, regium, spodium, triel, tetrel, pnictogen, chalcogen, halogen, and aerogen bonding interactions. No other book is available covering such an extensive number of interactions and examples where these interactions are relevant. relevant.