

Contents

Long-Distance Signaling in Systemic Acquired Resistance	1
Jyoti Shah and Ratnesh Chaturvedi	
Salicylic Acid-Induced Local and Long-Distance Signaling Models in Plants	23
Tomonori Kawano and François Bouteau	
Long-Distance Signaling via Mobile RNAs	53
David J. Hannapel	
Systemic Epigenetic Signaling in Plants	71
Andriy Bilichak and Igor Kovalchuk	
Long-Distance Signals Produced by Water-Stressed Roots	105
Jason Q.D. Goodger	
Oxygen Deficiency-Induced Root-to-Shoot Communication	125
Laura Arru, Silvia Fornaciari, and Stefano Mancuso	
Systemic Signaling in the Maintenance of Phosphate Homeostasis	149
Aaron P. Smith	
Long-Distance Signaling of Iron Deficiency in Plants	167
Yusuke Enomoto and Fumiyuki Goto	
Strigolactones and the Coordinated Development of Shoot and Root	189
Hinanit Koltai and Christine A. Beveridge	
Auxin as Long-Distance Signal Controlling Root Architecture in Response to Nitrogen	205
Giel E. van Noorden and Ulrike Mathesius	
Systemic Signalling in Legume Nodulation: Nodule Formation and Its Regulation	219
Satomi Hayashi, Peter M. Gresshoff, and Brett J. Ferguson	

Systemic Signaling in Light Acclimation of Leaves	231
Grzegorz Konert, Moona Rahikainen, Andrea Trotta, and Saijaliisa Kangasjärvi	
Systemic Photooxidative Stress Signalling	251
Melanie Carmody and Barry Pogson	
Macromolecules Trafficking in the Phloem and Interorgan Communication	275
Ziv Spiegelman, Guy Golan, and Shmuel Wolf	
Electrical Long-Distance Signaling in Plants	291
Matthias R. Zimmermann and Axel Mithöfer	
Intercellular Communication in Plants: Evidence for an EMF-Generated Signal that Evokes Local and Systemic Transcriptional Responses in Tomato	309
A. Vian, E. Davies, and P. Bonnet	
Systemic Wound Signaling in Plants	323
John P. Delano-Frier, Gregory Pearce, Alisa Huffaker, and Johannes W. Stratmann	
Calcium as a Trigger and Regulator of Systemic Alarms and Signals along the Phloem Pathway	363
Aart J.E. van Bel and Jens B. Hafke	
The Role of Volatiles in Plant-Plant Interactions	393
Cesar R. Rodriguez-Saona, Mark C. Mescher, and Consuelo M. De Moraes	
Index	413