Antioxidants and Reactive Oxygen Species in Plants

Edited by
Nicholas Smirnoff

Reactive oxygen species (ROS) are produced during the interaction of metabolism with oxygen. As ROS have the potential to cause oxidative damage by reacting with biomolecules, research on ROS has concentrated on the oxidative damage that results from exposure to environmental stresses and on the role of ROS in defence against pathogens. However, more recently, it has become apparent that ROS also have important roles as signalling molecules. A complex network of enzymatic and small molecule antioxidants controls the concentration of ROS and repairs oxidative damage, and research is revealing the complex and subtle interplay between ROS and antioxidants in controlling plant growth, development and response to the environment.

This book covers these new developments, generally focussing on molecular and biochemical details and providing a point of entry to the detailed literature. It is directed at researchers and professionals in plant molecular biology, biochemistry and cell biology, in both the academic and industrial sectors.

The Editor
Dr Nicholas Smirnoff is at the School of Biological and Chemical Sciences, University of Exeter, UK.

Also available in the same series
Plant Abiotic Stress
Edited by M. Jenks and P. Hasegawa
Hardback (ISBN 1-4051-2238-2) 288 pages

Blackwell Publishing
www.blackwellplantsci.com

ISBN 1-4051-2529-2
9 781405 125291 >
ISBN-13: 978-14051-2529-1

Cover image shows an Arabidopsis thaliana primary root stained with an ROS-sensitive fluorescent dye. The fluorescence image has been overlaid onto the corresponding bright field image of the root. Image courtesy of Mark A. Jones.