On the Cover: In this issue, apical dominance and correlative inhibition are shown to regulate bud outgrowth in strigolactone (a novel branching inhibitor) mutants of pea (Pisum sativum; see Ferguson and Beveridge, pp. 1929–1944). Moreover, reductions in the level or transport of auxin, or in strigolactone biosynthesis gene expression, did not always correlate with bud outgrowth. In contrast, increased cytokinin biosynthesis gene expression did correlate. The technique of stem girdling, which locally kills tissues, was used to elucidate many of these findings. The cover image depicts untreated (far left) or girdled pea stems. Photo provided by Dr. Brett Ferguson (Australian Research Council Centre of Excellence for Integrative Legume Research, Brisbane, Australia).
BIOENERGETICS AND PHOTOSYNTHESIS

[C][W][OA] Rubisco Oligomers Composed of Linked Small and Large Subunits Assemble in Tobacco Plastids and Have Higher Affinities for CO₂ and O₂. Spencer Michael Whitney, Heather Jean Kane, Robert L. Houtz, and Robert Edward Sharwood 1887

CELL BIOLOGY AND SIGNAL TRANSDUCTION


[OA] SnRK1 Isoforms AKIN10 and AKIN11 Are Differentially Regulated in Arabidopsis Plants under Phosphate Starvation. Selene Fragoso, Laura Espindola, Julio Páez-Valencia, Alicia Gamboa, Yolanda Camacho, Eleazar Martinez-Barajas, and Patricia Coello 1906

DEVELOPMENT AND HORMONE ACTION


[W][OA] MIKC* MADS Domain Heterodimers Are Required for Pollen Maturation and Tube Growth in Arabidopsis. Benjamin J. Adamczyk and Donna E. Fernandez 1713


[C][W][OA] Roles for Auxin, Cytokinon, and Strigolactone in Regulating Shoot Branching. Brett J. Ferguson and Christine A. Beveridge 1929


ENVIRONMENTAL STRESS AND ADAPTATION TO STRESS


[W][OA] Exploring the Mechanism of Physcomitrella patens Desiccation Tolerance through a Proteomic Strategy. Xiao Qin Wang, Ping Fang Yang, Zheng Liu, Wei Zhong Liu, Yong Hu, Hui Chen, Ting Yun Kuang, Zhen Ming Pei, Shi Hua Shen, and Yi Kun He 1739

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Methyl Jasmonate Reduces Grain Yield by Mediating Stress Signals to Alter Spikelet Development in Rice. Eun Hye Kim, Youn Shic Kim, Su-Hyun Park, Yeon Jong Koo, Yang Do Choi, Yong-Yoon Chung, In-Jung Lee, and Ju-Kon Kim

AtMyb41 Regulates Transcriptional and Metabolic Responses to Osmotic Stress in Arabidopsis. Felix Lippold, Diego H. Sanchez, Magdalena Musialak, Armin Schlereth, Wolf-Ruediger Scheible, Dirk K. Hincha, and Michael K. Udvardi

Molecular and Genetic Evidence for the Key Role of AtCaM3 in Heat-Shock Signal Transduction in Arabidopsis. Wei Zhang, Ren-Gang Zhou, Ying-Jie Gao, Shu-Zhi Zheng, Peng Xu, Su-Qiao Zhang, and Da-Ye Sun


The Temperature-Sensitive brush Mutant of the Legume Lotus japonicus Reveals a Link between Root Development and Nodule Infection by Rhizobia. Makoto Maekawa-Yoshikawa, Judith Müller, Naoya Takeda, Takaki Maekawa, Shusei Sato, Satoshi Tabata, Jillian Perry, Trevor L. Wang, Martin Groth, Andreas Brachmann, and Martin Parniske


Inhibition of Tobacco Mosaic Virus Movement by Expression of an Actin-Binding Protein. Christina Hofmann, Annette Niehl, Adrian Sambade, André Steinmetz, and Manfred Heinlein

Subcellular Localization and Functional Analysis of the Arabidopsis GTPase RabE. Elena Bray Speth, Lori Imboden, Paula Hauck, and Sheng Yang He


Crassulacean Acid Metabolism and Epiphytism Linked to Adaptive Radiations in the Orchidaceae. Katia Silvera, Louis S. Santiago, John C. Cushman, and Klaus Winter

The Control of Autumn Senescence in European Aspen. Yvan Fracheboud, Virginia Luquez, Lars Björkén, Andreas Sjödin, Hannele Tuominen, and Stefan Jansson

Water Relations of Chusquea ramosissima and Merochlaena clausennii in Iguazu National Park, Argentina. Sonali Saha, Noel M. Holbrook, Lia Montti, Guillermo Goldstein, and Gina Knust Cardinot

Drought and Abscisic Acid Effects on Aquaporin Content Translate into Changes in Hydraulic Conductivity and Leaf Growth Rate: A Trans-Scale Approach. Boris Parent, Charles Hachez, Elise Redondo, Thierry Simonneau, François Chaumont, and François Tardieu

Inhibition of SNF1-Related Protein Kinase1 Activity and Regulation of Metabolic Pathways by Trehalose-6-Phosphate.  


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