

The electronic form of this issue, available as of December 11, 2012, at www.plantphysiol.org, is considered the journal of record.

On the Cover: The Soybean Free Air Concentration Enrichment (SoyFACE) experimental field site in Savoy, Illinois, where Betzelberger et al. (pp. 1827–1839) investigated the response of soybean (*Glycine max*) to elevated ozone (O₃) concentrations. (Clockwise, from the top) A mature soybean canopy in late August (photo by Carrie Ramig), entry path leading to an O₃ fumigation plot in early July (photo by Carrie Ramig), an aerial view after the onset of senescence in mid-September (photo by Andrew Leakey), foliar symptoms resulting from exposure to elevated O₃ (photo by Craig Yendrek), and field researchers sampling leaf tissue in an O₃ plot (photo by Craig Yendrek).

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^{[W][OA]}The Submergence Tolerance Gene *SUB1A* Delays Leaf Senescence under Prolonged Darkness through Hormonal Regulation in Rice. *Takeshi Fukao, Elaine Yeung, and Julia Bailey-Serres* 1795

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^{[W][OA]}Ozone Exposure Response for U.S. Soybean Cultivars: Linear Reductions in Photosynthetic Potential, Biomass, and Yield. *Amy M. Betzelberger, Craig R. Yendrek, Jindong Sun, Courtney P. Leisner, Randall L. Nelson, Donald R. Ort, and Elizabeth A. Ainsworth* 1827

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- Editor's Choice: Crop Genome Plasticity and Its Relevance to Food and Feed Safety of Genetically Engineered Breeding Stacks. *Natalie Weber, Claire Halpin, L. Curtis Hannah, Joseph M. Jez, John Kough, and Wayne Parrott* 1842

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- ^{[W][OA]}Striking Natural Diversity in Glandular Trichome Acylsugar Composition Is Shaped by Variation at the Acyltransferase2 Locus in the Wild Tomato *Solanum habrochaites*. *Jeongwoon Kim, Kiyoon Kang, Eliana Gonzales-Vigil, Feng Shi, A. Daniel Jones, Cornelius S. Barry, and Robert L. Last* 1854

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- ^{[C][W][OA]}*SmartGrain*: High-Throughput Phenotyping Software for Measuring Seed Shape through Image Analysis. *Takanari Tanabata, Taeko Shibaya, Kiyosumi Hori, Kaworu Ebana, and Masahiro Yano* 1871

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- ^{[W][OA]}UDP-Glycosyltransferases from the UGT73C Subfamily in *Barbarea vulgaris* Catalyze Sapogenin 3-O-Glucosylation in Saponin-Mediated Insect Resistance. *Jörg M. Augustin, Sylvia Drok, Tetsuro Shinoda, Kazutsuka Sanmiya, Jens Kvist Nielsen, Bekzod Khakimov, Carl Erik Olsen, Esben Halkjær Hansen, Vera Kuzina, Claus Thorn Ekstrøm, Thure Hauser, and Søren Bak* 1881

- ^{[W][OA]}Decreasing the Mitochondrial Synthesis of Malate in Potato Tubers Does Not Affect Plastidial Starch Synthesis, Suggesting That the Physiological Regulation of ADPglucose Pyrophosphorylase Is Context Dependent. *Marek Szecowka, Sonia Osorio, Toshihiro Obata, Wagner L. Araújo, Johannes Rohrmann, Adriano Nunes-Nesi, and Alisdair R. Fernie* 2227

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- ^{[W][OA]}DAC Is Involved in the Accumulation of the Cytochrome *b₆/f* Complex in Arabidopsis. *Jianwei Xiao, Jing Li, Min Ouyang, Tao Yun, Baoye He, Daili Ji, Jinfang Ma, Wei Chi, Congming Lu, and Lixin Zhang* 1911

- ^{[W][OA]}LCAA, a Novel Factor Required for Magnesium Protoporphyrin Monomethylester Cyclase Accumulation and Feedback Control of Aminolevulinic Acid Biosynthesis in Tobacco. *Christin Anne Albus, Annabel Salinas, Olaf Czarniecki, Sabine Kahlau, Maxi Rothbart, Wolfram Thiele, Wolfgang Lein, Ralph Bock, Bernhard Grimm, and Mark Aurel Schöttler* 1923

- ^[W]Long-Term Acclimation of the Cyanobacterium *Synechocystis* sp. PCC 6803 to High Light Is Accompanied by an Enhanced Production of Chlorophyll That Is Preferentially Channeled to Trimeric Photosystem I. *Jana Kopečná, Josef Komenda, Lenka Bučinská, and Roman Sobotka* 2239

- ^{[C][W][OA]}Truncated Photosystem Chlorophyll Antenna Size in the Green Microalga *Chlamydomonas reinhardtii* upon Deletion of the *TLA3-CpSRP43* Gene. *Henning Kirst, Jose Gines Garcia-Cerdan, Andreas Zurbriggen, Thilo Ruehle, and Anastasios Melis* 2251

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- ^{[C][W][OA]}The Cell Wall of the Arabidopsis Pollen Tube—Spatial Distribution, Recycling, and Network Formation of Polysaccharides. *Youssef Chebli, Minako Kaneda, Rabah Zerzour, and Anja Geitmann* 1940

- ^{[W][OA]}Systems Dynamic Modeling of a Guard Cell Cl⁻ Channel Mutant Uncovers an Emergent Homeostatic Network Regulating Stomatal Transpiration. *Yizhou Wang, Maria Papanatsiou, Cornelia Eisenach, Rucha Karnik, Mary Williams, Adrian Hills, Virgilio L. Lew, and Michael R. Blatt* 1956

DEVELOPMENT AND HORMONE ACTION

- ^{[W][OA]}Differential Control of Ethylene Responses by *GREEN-RIPE* and *GREEN-RIPE LIKE1* Provides Evidence for Distinct Ethylene Signaling Modules in Tomato. *Qian Ma, Wenyang Du, Federica Brandizzi, James J. Giovannoni, and Cornelius S. Barry* 1968

- ^{[C][W][OA]}Role for Apyrases in Polar Auxin Transport in Arabidopsis. *Xing Liu, Jian Wu, Greg Clark, Stacey Lundy, Minhui Lim, David Arnold, Jing Chan, Wenqiang Tang, Gloria K. Muday, Gary Gardner, and Stanley J. Roux* 1985

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- [C][W] The *AINTEGUMENTA LIKE1* Homeotic Transcription Factor *PtAIL1* Controls the Formation of Adventitious Root Primordia in Poplar. *Adeline Rigal, Yordan S. Yordanov, Irene Perrone, Anna Karlberg, Emilie Tisserant, Catherine Bellini, Victor B. Busov, Francis Martin, Annegret Kohler, Rishi Bhalariao, and Valérie Legué* 1996
- [W] Dynamic Changes in the Distribution of Minerals in Relation to Phytic Acid Accumulation during Rice Seed Development. *Toru Iwai, Michiko Takahashi, Koshiro Oda, Yasuko Terada, and Kaoru T. Yoshida* 2007
- [W] Arabidopsis *COP1* and *SPA* Genes Are Essential for Plant Elongation But Not for Acceleration of Flowering Time in Response to a Low Red Light to Far-Red Light Ratio. *Sebastian Rolauffs, Petra Fackendahl, Jan Sahm, Gabriele Fiene, and Ute Hoecker* 2015
- [C][W][OA] An Endogenous Carbon-Sensing Pathway Triggers Increased Auxin Flux and Hypocotyl Elongation. *Jodi L. Stewart Lilley, Christopher W. Gee, Ilkka Sairanen, Karin Ljung, and Jennifer L. Nemhauser* 2261
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- [OA] Systemic Regulation of Soybean Nodulation by Acidic Growth Conditions. *Meng-Han Lin, Peter M. Gresshoff, and Brett J. Ferguson* 2028
- [W][OA] Arabidopsis Plastid *AMOS1/EGY1* Integrates Abscisic Acid Signaling to Regulate Global Gene Expression Response to Ammonium Stress. *Baohai Li, Qing Li, Liming Xiong, Herbert J. Kronzucker, Ute Krämer, and Weiming Shi* 2040
- [W][OA] Knockdown of a Rice Stelar Nitrate Transporter Alters Long-Distance Translocation But Not Root Influx. *Zhong Tang, Xiaorong Fan, Qing Li, Huimin Feng, Anthony J. Miller, Qirong Shen, and Guohua Xu* 2052
- [C][W][OA] *RhNAC2* and *RhEXPA4* Are Involved in the Regulation of Dehydration Tolerance during the Expansion of Rose Petals. *Fanwei Dai, Changqing Zhang, Xinqiang Jiang, Mei Kang, Xia Yin, Peitao Lü, Xiao Zhang, Yi Zheng, and Junping Gao* 2064
- [W][OA] A Comparative Study of Iron Uptake Mechanisms in Marine Microalgae: Iron Binding at the Cell Surface Is a Critical Step. *Robert Sutak, Hugo Botebol, Pierre-Louis Blaiseau, Thibaut Léger, François-Yves Bouget, Jean-Michel Camadro, and Emmanuel Lesuisse* 2271
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- [W][OA] Control of Tobacco mosaic virus Movement Protein Fate by CELL-DIVISION-CYCLE Protein48. *Annette Niehl, Khalid Amari, Dalya Gereige, Katrin Brandner, Yves Mély, and Manfred Heinlein* 2093
- [W] Disruption of Abscisic Acid Signaling Constitutively Activates Arabidopsis Resistance to the Necrotrophic Fungus *Plectosphaerella cucumerina*. *Andrea Sánchez-Vallat, Gemma López, Brisa Ramos, Magdalena Delgado-Cerezo, Marie-Pierre Riviere, Francisco Llorente, Paula Virginia Fernández, Eva Miedes, José Manuel Estevez, Murray Grant, and Antonio Molina* 2109
- [W][OA] 14-3-3 Proteins *SGF14c* and *SGF14l* Play Critical Roles during Soybean Nodulation. *Osman Radwan, Xia Wu, Manjula Govindarajulu, Marc Libault, David J. Neece, Man-Ho Oh, R. Howard Berg, Gary Stacey, Christopher G. Taylor, Steven C. Huber, and Steven J. Clough* 2125
- [W] Two MicroRNAs Linked to Nodule Infection and Nitrogen-Fixing Ability in the Legume *Lotus japonicus*. *Ana De Luis, Katharina Markmann, Valérie Cognat, Dennis B. Holt, Myriam Charpentier, Martin Parniske, Jens Stougaard, and Olivier Voinnet* 2137
- [W] *Medicago truncatula* ERN Transcription Factors: Regulatory Interplay with NSP1/NSP2 GRAS Factors and Expression Dynamics throughout Rhizobial Infection. *Marion R. Cerri, Lisa Frances, Tom Laloum, Marie-Christine Auriac, Andreas Niebel, Giles E.D. Oldroyd, David G. Barker, Joëlle Fournier, and Fernanda de Carvalho-Niebel* 2155
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CORRECTIONS

- A Novel Lactone-Forming Carboxylesterase: Molecular Identification of a Tuliposide A-Converting Enzyme in Tulip. *Nomura T., Ogita S., and Kato Y.* 2311

^[C] Some figures in this article are displayed in color online but in black and white in the print edition.

^[W] Indicates Web-only data.

^[OA] Open Access articles can be viewed online without a subscription.