

**On the Cover:** Plants are exquisite in their capacity to convert photons of light through photosynthetic fixation of carbon dioxide into sugars that are assimilated and partitioned from source to sink tissues, including roots and flowers. Oxygen is utilized for efficient conversion of sugars to ATP via aerobic respiration in mitochondria. This Focus Issue on Energy: Light and Oxygen Dynamics evaluates the plant's exquisite integration of light and oxygen with sugar sensing to maximize development and fitness. The cover contrasts the canopy of rice in environments that differ in the availability of light and oxygen. On the left, the plant is submerged and on the right solar radiation, oxygen and carbon dioxide are represented. The cover was created by graphic artist Alexander Bailey of Berkeley, California, USA.

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*A transmembrane protein conserved broadly in plants and animals promotes antiviral silencing by enhancing the amplification of virus-derived small interfering RNAs.*

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[<sup>OPEN</sup>] The Brassicaceae Family Displays Divergent, Shoot-Skewed NLR Resistance Gene Expression. David Munch, Vikas Gupta, Asger Bachmann, Wolfgang Busch, Simon Kelly, Terry Mun, and Stig Uggerhøj Andersen

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[OPEN] Dynamics of Ethylene Production in Response to Compatible Nod Factor. Dugald Reid, Huijun Liu, Simon Kelly, Yasuyuki Kawaharada, Terry Mun, Stig U. Andersen, Guilhem Desbrosses, and Jens Stougaard

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[OPEN] Glucose-Induced Trophic Shift in an Endosymbiont Dinoflagellate with Physiological and Molecular Consequences. Tingting Xiang, Robert E. Jinkerson, Sophie Clowez, Cawa Tran, Cory J. Krediet, Masayuki Onishi, Phillip A. Cleves, John R. Pringle, and Arthur R. Grossman

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[OPEN] Laccase GhLac1 Modulates Broad-Spectrum Biotic Stress Tolerance via Manipulating Phenylpropanoid Pathway and Jasmonic Acid Synthesis. Qin Hu, Ling Min, Xiyan Yang, Shuangxia Jin, Lin Zhang, Yaoyao Li, Yizan Ma, Xuewei Qi, Dongqin Li, Hongbo Liu, Keith Lindsey, Longfu Zhu, and Xianlong Zhang

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[<sup>OPEN</sup>] Involvement of Adapter Protein Complex 4 in Hypersensitive Cell Death Induced by Avirulent Bacteria. Noriyuki Hatsugai, Aya Nakatsuji, Osamu Unten, Kimi Ogasawara, Maki Kondo, Mikio Nishimura, Tomoo Shimada, Fumiaki Katagiri, and Ikuko Hara-Nishimura

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[<sup>OPEN</sup>] The Kinase OsCPK4 Regulates a Buffering Mechanism That Fine-Tunes Innate Immunity. Jiyang Wang, Shanzhi Wang, Ke Hu, Jun Yang, Xiaoyun Xin, Wenqing Zhou, Jiangbo Fan, Fuhao Cui, Baohui Mou, Shiyong Zhang, Guoliang Wang, and Wenxian Sun

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TCP Transcription Factors Regulate Shade Avoidance via Directly Mediating the Expression of Both *PHYTOCHROME INTERACTING FACTORS* and Auxin Biosynthetic Genes. Yu Zhou, Dongzhi Zhang, Jiaying An, Hongju Yin, Shuang Fang, Jinfang Chu, Yunde Zhao, and Jia Li

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[<sup>OPEN</sup>] Transcription Factor-Mediated Control of Anthocyanin Biosynthesis in Vegetative Tissues. Nikolay S. Outchkourov, Rumyana Karlova, Matthijs Hölscher, Xandra Schrama, Ikram Blilou, Esmer Jongedijk, Carmen Diez Simon, Aalt D. J. van Dijk, Dirk Bosch, Robert D. Hall, and Jules Beekwilder

*Plants accumulate secondary metabolites to adapt to environmental conditions.* 1862

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