

On the Cover: Leaf angle is an important agricultural trait determining leaf erectness and, hence, the photosynthesis efficiency and grain yield. Rice leaf angle is determined by lamina joint, and elucidation of the regulatory network of lamina joint development will contribute to molecular breeding of ideal architecture of rice. However, the understanding of morphological changes, cytological transitions, and underlying transcriptional programming is still limited. In this issue, studies by Zhou et al. (pp. 1728–1746) reveal a dynamic and a common—but distinct—development of lamina joint at successive stages accompanying sequential cell division and expansion of parenchyma cells, differentiation of sclerenchyma cells, cell wall thickening, and programmed cell death (PCD). The increased leaf angle results from the asymmetric cell proliferation and elongation at the adaxial or abaxial sides. Analysis of the transcriptome at four developmental stages ranging from initiation to senescence indicate that dynamic cytology is fine-regulated by multiple processes, including phytohormone signaling, transcription, and protein phosphorylation. Furthermore, phytohormones may regulate the lamina joint development synergistically and antagonistically. The image shows the rice lamina joint anatomies at stage 4, and the vascular bundles, sclerenchyma cells (newly formed), and parenchyma cells are highlighted with purple, green, or blue shade colors, respectively. Cover art by Li-Juan Zhou.

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[OPEN] Vesicle Dynamics during Plant Cell Cytokinesis Reveals Distinct Developmental Phases. *Chloë van Oostende-Triplet, Dominique Guillet, Thomas Triplet, Elvis Pandzic, Paul W. Wiseman, and Anja Geitmann*

Cell plate formation in dividing plant cells follows a highly consistent pattern involving precisely choreographed vesicle motion and functionally distinct stages.

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[^{OPEN}]Primitive Auxin Response without TIR1 and Aux/IAA in the Charophyte Alga *Klebsormidium nitens*. Kinuka Ohtaka, Koichi Hori, Yuri Kanno, Mitsunori Seo, and Hiroyuki Ohta

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[^{OPEN}]Heavy Metals Induce Iron Deficiency Responses at Different Hierarchic and Regulatory Levels. Alexandra Lešková, Ricardo F. H. Giehl, Anja Hartmann, Agáta Fargašová, and Nicolaus von Wirén

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[OPEN]Transcriptome Profiling of Wheat Inflorescence Development from Spikelet Initiation to Floral Patterning Identified Stage-Specific Regulatory Genes. Nan Feng, Gaoyuan Song, Jiantao Guan, Kai Chen, Meiling Jia, Dehua Huang, Jiajie Wu, Lichao Zhang, Xiuying Kong, Shuai Feng Geng, Jun Liu, Aili Li, and Long Mao

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[CC-BY]ATX3, ATX4, and ATX5 Encode Putative H3K4 Methyltransferases and Are Critical for Plant Development. Li-Qun Chen, Jin-Hong Luo, Zhen-Hai Cui, Ming Xue, Li Wang, Xiao-Yu Zhang, Wojciech P. Pawlowski, and Yan He

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^[OPEN]A Magnesium Transporter OsMGT1 Plays a Critical Role in Salt Tolerance in Rice. Zhi Chang Chen, Naoki Yamaji, Tomoaki Horie, Jing Che, Jian Li, Gynheung An, and Jian Feng Ma

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^[OPEN]Cooperative Regulatory Functions of miR858 and MYB83 during Cyst Nematode Parasitism. Sarbottam Piya, Christina Kihm, J. Hollis Rice, Thomas J. Baum, and Tarek Hevezi

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miR156-Targeted SBP-Box Transcription Factors Interact with DWARF53 to Regulate TEOSINTE BRANCHED1 and BARREN STALK1 Expression in Bread Wheat. Jie Liu, Xiliu Cheng, Pan Liu, and Jiaqiang Sun

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[^{OPEN}] **Circadian, Carbon, and Light Control of Expansion Growth and Leaf Movement.**
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[^{OPEN}] **Root Cell-Specific Regulators of Phosphate-Dependent Growth.** Joshua Linn, Meiyang Ren, Oliver Berkowitz, Wona Ding, Margaretha J. van der Merwe, James Whelan, and Ricarda Jost

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