The female inflorescences (cones) of the hop plant (*Humulus lupulus*) are rich in terpenoid essential oils and resins, which are synthesized in glandular trichomes. In addition to components that give beer a characteristic flavor, hop cones contain a significant amount of xanthohumol, a prenylchalcone with cancer-preventive properties. Nagel et al. (pages 186–200) present an EST analysis of glandular trichomes from high-xanthohumol hop cultivars to investigate the biosynthesis of xanthohumol and other trichome metabolites. Their analysis identified O-methyltransferase OMT1 as the major enzyme catalyzing the final step in xanthohumol biosynthesis in hop cones and expands genomic resources available for *H. lupulus*.
Direct Repression of KNOX Loci by the ASYMMETRIC LEAVES1 Complex of Arabidopsis
Mengjuan Guo, Julie Thomas, Galen Collins, and Marja C.P. Timmermans

CENL1 Expression in the Rib Meristem Affects Stem Elongation and the Transition to Dormancy in Populus
Raili Ruonala, Päivi L.H. Rinne, Jaakko Kangasjärvi, and Christiana van der Schoot

The Arabidopsis Small G Protein ROP2 Is Activated by Light in Guard Cells and Inhibits Light-Induced Stomatal Opening
Byeong Wook Jeon, Jae-Ung Hwang, Youngkyu Hwang, Won-Yong Song, Ying Fu, Ying Gu, Fang Bao, Daeshik Cho, June M. Kwak, Zhenbiao Yang, and Youngsook Lee

Requirement of B2-Type Cyclin-Dependent Kinases for Meristem Integrity in Arabidopsis thaliana
Stig Uggerhøj Andersen, Sabine Buechel, Zhong Zhao, Karin Ljung, Ondřej Novák, Wolfgang Busch, Christoph Schuster, and Jan U. Lohmann

Rab-A2 and Rab-A3 GTPases Define a trans-Golgi Endosomal Membrane Domain in Arabidopsis That Contributes Substantially to the Cell Plate
Cheung-Ming Chow, Hélia Neto, Camille Foucart, and Ian Moore

The Type B Phosphatidylinositol-4-Phosphate 5-Kinase 3 Is Essential for Root Hair Formation in Arabidopsis thaliana
Irene Stenzel, Till Ischebeck, Sabine König, Anna Holubowska, Marta Sporysz, Bettina Hause, and Ingo Heilmann

Membrane Association of the Arabidopsis ARF Exchange Factor GNOM Involves Interaction of Conserved Domains
Nadine Anders, Michael Nielsen, Jutta Keicher, York-Dieter Stierhof, Masahiko Furutani, Masao Tasaka, Karen Skriver, and Gerd Jürgens

Characterization of Arabidopsis and Rice DWD Proteins and Their Roles as Substrate Receptors for CUL4-RING E3 Ubiquitin Ligases
Jae-Hoon Lee, William Terzaghi, Giuliana Gusmaroli, Jean-Benoit F. Charron, Hye-Jin Yoon, Haodong Chen, Yizhou Joseph He, Yue Xiong, and Xing Wang Deng

Analysis of the Arabidopsis O-Acetylserine(thiol)lyase Gene Family Demonstrates Compartment-Specific Differences in the Regulation of Cysteine Synthesis
Corinna Heeg, Cordula Kruse, Ricardo Jost, Michael Gutensohn, Thomas Ruppert, Markus Wirtz, and Rüdiger Hell

EST Analysis of Hop Glandular Trichomes Identifies an O-Methyltransferase That Catalyzes the Biosynthesis of Xanthohumol
Jana Nagel, Lana K. Culley, Yuping Lu, Ernwu Liu, Paul D. Matthews, Jan F. Stevens, and Jonathan E. Page

Sad3 and Sad4 Are Required for Saponin Biosynthesis and Root Development in Oat
Panagiota Mylona, Amorn Owatworakit, Kalliopi Papadopoulou, Helen Jenner, Bo Qin, Kim Findlay, Lionel Hill, Xiaojun Qi, Saleha Bakht, Rachel Melton, and Anne Osbourn

Arabidopsis UEV1D Promotes Lysine-63–Linked Polyubiquitination and Is Involved in DNA Damage Response
Rui Wen, J. Antonio Torres-Acosta, Landon Pastushok, Xiaojun Lai, Lindsay Pelzer, Hong Wang, and Wei Xiao
Activation of the Indole-3-Acetic Acid–Amido Synthetase GH3-8 Suppresses
Expansin Expression and Promotes Salicylate- and Jasmonate-Independent
Basal Immunity in Rice

Xinhua Ding, Yinglong Cao, Liling Huang, Jing Zhao, Caiguo Xu,
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