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On the Cover: There are 7,500 or so apple (*Malus × domestica*) cultivars in the world currently. Although the fruit have much longer shelf life than other pome fruit, such as quince and pear, even so there is a marked difference in the storage ability among cultivars. The main factor that determines the postharvest quality of fruit is the rate of softening of the fruit during storage and on shelf. It has been well known that ethylene induces the softening by regulating expression of cell wall-modifying enzymes. This study has indicated that the fruit-specific ACC synthase gene *MdACS3a* is expressed prior to the large increase in the expression of another ACC synthase gene, *MdACS1*, suggesting that *MdACS3a* may be involved in the transition to system 2 ethylene synthesis in ripening fruit. In addition, evidence is presented that suggests the presence of allelic variants of *MdACS3a* that are nonfunctional and may contribute to variation in ethylene production and shelf life in apple cultivars. The fruit was provided by Tomoko Akada (Apple Research Center, Aomori, Japan). Cover image by Hiroshi Yagihashi. (See Wang et al., pp. 391–399.)

ON THE INSIDE

Peter V. Minorsky

1

GENOME ANALYSIS

^{[C][W][OA]}Evolutionary and Expression Signatures of Pseudogenes in Arabidopsis and Rice. Cheng Zou, Melissa D. Lehti-Shiu, Françoise Thibaud-Nissen, Tanmay Prakash, C. Robin Buell, and Shin-Han Shiu

3

BIOINFORMATICS

^{[C][W][OA]}RiceArrayNet: A Database for Correlating Gene Expression from Transcriptome Profiling, and Its Application to the Analysis of Coexpressed Genes in Rice. Tae-Ho Lee, Yeon-Ki Kim, Thu Thi Minh Pham, Sang Ik Song, Ju-Kon Kim, Kyu Young Kang, Gynheung An, Ki-Hong Jung, David W. Galbraith, Minkyun Kim, Ung-Han Yoon, and Baek Hie Nahm

16

^{[C][W]}Computational Identification of Potential Molecular Interactions in Arabidopsis. Mingzhi Lin, Bin Hu, Lijuan Chen, Peng Sun, Yi Fan, Ping Wu, and Xin Chen

34

RESEARCH ARTICLES

BIOCHEMICAL PROCESSES AND MACROMOLECULAR STRUCTURES

^{[C][W][OA]}Structural and Enzymatic Characterization of Os3BGlu6, a Rice β -Glucosidase Hydrolyzing Hydrophobic Glycosides and (1 \rightarrow 3)- and (1 \rightarrow 2)-Linked Disaccharides. Supriya Seshadri, Takashi Akiyama, Rodjana Opassiri, Buabarn Kuaprasert, and James Ketudat Cairns

47

^[OA]Enhancement of Carotenoid Biosynthesis in Transplastomic Tomatoes by Induced Lycopene-to-Provitamin A Conversion. Wiebke Apel and Ralph Bock

59

^{[C][W][OA]}Phylogenetic Analysis of ADP-Glucose Pyrophosphorylase Subunits Reveals a Role of Subunit Interfaces in the Allosteric Properties of the Enzyme. Nikolaos Georgelis, Janine R. Shaw, and L. Curtis Hannah

67

^{[C][W][OA]}Mutations in UDP-Glucose: Sterol Glucosyltransferase in Arabidopsis Cause Transparent Testa Phenotype and Suberization Defect in Seeds. Seth DeBolt, Wolf-Rüdiger Scheible, Kathrin Schrick, Manfred Auer, Fred Beisson, Volker Bischoff, Pierrette Bouvier-Navé, Andrew Carroll, Kian Hematy, Yonghua Li, Jennifer Milne, Meera Nair, Hubert Schaller, Marcin Zemla, and Chris Somerville

78

Continued on next page

- [W][OA] Arabidopsis Methionine γ -Lyase Is Regulated According to Isoleucine Biosynthesis Needs But Plays a Subordinate Role to Threonine Deaminase. *Vijay Joshi and Georg Jander* 367

BIOENERGETICS AND PHOTOSYNTHESIS

- [C][W][OA] Mechanism of REP27 Protein Action in the D1 Protein Turnover and Photosystem II Repair from Photodamage. *David Dewez, Sungsoon Park, Jose Gines García-Cerdán, Pia Lindberg, and Anastasios Melis* 88
- [W] Pleiotropic Modulation of Carbon and Nitrogen Metabolism in Arabidopsis Plants Overexpressing the NAD kinase2 Gene. *Hideyuki Takahashi, Kentaro Takahara, Shin-nosuke Hashida, Takayuki Hirabayashi, Tamaki Fujimori, Maki Kawai-Yamada, Tomoyuki Yamaya, Shuichi Yanagisawa, and Hirofumi Uchimiya* 100
- [W][OA] A Phosphofructokinase B-Type Carbohydrate Kinase Family Protein, NARA5, for Massive Expressions of Plastid-Encoded Photosynthetic Genes in Arabidopsis. *Taro Ogawa, Kenji Nishimura, Takehiko Aoki, Hisabumi Takase, Ken-Ichi Tomizawa, Hiroki Ashida, and Akiho Yokota* 114
- Photosystem II and Pigment Dynamics among Ecotypes of the Green Alga *Ostreococcus*. *Christophe Six, Ryan Sherrard, Marie Lionard, Suzanne Roy, and Douglas A. Campbell* 379

CELL BIOLOGY AND SIGNAL TRANSDUCTION

- [W][OA] Multiple Sequence Motifs in the Rubisco Small Subunit Transit Peptide Independently Contribute to Toc159-Dependent Import of Proteins into Chloroplasts. *Dong Wook Lee, Sumin Lee, Young Jun Oh, and Inhwan Hwang* 129
- [C][W][OA] WPP-Domain Proteins Mimic the Activity of the HSC70-1 Chaperone in Preventing Mistargeting of RanGAP1-Anchoring Protein WIT1. *Jelena Brkljacic, Qiao Zhao, and Iris Meier* 142
- Auxin Stimulates Its Own Transport by Shaping Actin Filaments. *Peter Nick, Min-Jung Han, and Gyeunhung An* 155

DEVELOPMENT AND HORMONE ACTION

- [C][W][OA] The TRANSPORT INHIBITOR RESPONSE2 Gene Is Required for Auxin Synthesis and Diverse Aspects of Plant Development. *Masashi Yamada, Katie Greenham, Michael J. Prigge, Philip J. Jensen, and Mark Estelle* 168
- [C][W][OA] The Paralogous Genes RADICAL-INDUCED CELL DEATH1 and SIMILAR TO RCD ONE1 Have Partially Redundant Functions during Arabidopsis Development. *Sachin Teotia and Rebecca S. Lamb* 180
- [W][OA] Molecular and Biochemical Characterization of AtPAP15, a Purple Acid Phosphatase with Phytase Activity, in Arabidopsis. *Ruibin Kuang, Kam-Ho Chan, Edward Yeung, and Boon Leong Lim* 199
- [W][OA] Null Mutation of the MdACS3 Gene, Coding for a Ripening-Specific 1-Aminocyclopropane-1-Carboxylate Synthase, Leads to Long Shelf Life in Apple Fruit. *Aide Wang, Junko Yamakake, Hisayuki Kudo, Yuhya Wakasa, Yoshimichi Hatsuyama, Megumi Igarashi, Atsushi Kasai, Tianzhong Li, and Takeo Harada* 391
- [C][OA] Interactions between Auxin and Strigolactone in Shoot Branching Control. *Alice Hayward, Petra Stirnberg, Christine Beveridge, and Ottoline Leyser* 400

ENVIRONMENTAL STRESS AND ADAPTATION TO STRESS

- [W][OA] Loss of Halophytism by Interference with SOS1 Expression. *Dong-Ha Oh, Eduardo Leidi, Quan Zhang, Sung-Min Hwang, Youzhi Li, Francisco J. Quintero, Xingyu Jiang, Matilde Paino D'Urzo, Sang Yeol Lee, Yanxiu Zhao, Jeong Dong Bahk, Ray A. Bressan, Dae-Jin Yun, José M. Pardo, and Hans J. Bohnert* 210
- Strain Mechanosensing Quantitatively Controls Diameter Growth and *PtaZFP2* Gene Expression in Poplar. *Catherine Coutand, Ludovic Martin, Nathalie Leblanc-Fournier, Mélanie Decourteix, Jean-Louis Julien, and Bruno Moullia* 223
- [W][OA] Overexpressing AtPAP15 Enhances Phosphorus Efficiency in Soybean. *Xiurong Wang, Yingxiang Wang, Jiang Tian, Boon Leong Lim, Xiaolong Yan, and Hong Liao* 233

- [W][OA] **BOBBER1** Is a Noncanonical Arabidopsis Small Heat Shock Protein Required for Both Development and Thermotolerance. *Dahlia E. Perez, J. Steen Hoyer, Ayanna I. Johnson, Zachary R. Moody, Joseph Lopez, and Nicholas J. Kaplinsky* 241
- [W][OA] The Role of Oxophytodienoate Reductases in the Detoxification of the Explosive 2,4,6-Trinitrotoluene by Arabidopsis. *Emily R. Beynon, Zoe C. Symons, Rosamond G. Jackson, Astrid Lorenz, Elizabeth L. Rylott, and Neil C. Bruce* 253
- [C][W] Physiological and Transcriptome Analysis of Iron and Phosphorus Interaction in Rice Seedlings. *Luqing Zheng, Fangliang Huang, Reena Narsai, Jiaojiao Wu, Estelle Giraud, Fei He, Longjun Cheng, Fang Wang, Ping Wu, James Whelan, and Huixia Shou* 262
- [W] The MYB96 Transcription Factor Mediates Abscisic Acid Signaling during Drought Stress Response in Arabidopsis. *Pil Joon Seo, Fengning Xiang, Meng Qiao, Ju-Young Park, Young Na Lee, Sang-Gyu Kim, Yong-Hwan Lee, Woong June Park, and Chung-Mo Park* 275
- [C] Influence of Leaf Tolerance Mechanisms and Rain on Boron Toxicity in Barley and Wheat. *Rob Reid and Kate Fitzpatrick* 413
- [W][OA] Thiamin Confers Enhanced Tolerance to Oxidative Stress in Arabidopsis. *Meral Tunc-Ozdemir, Gad Miller, Luhua Song, James Kim, Ahmet Sodek, Shai Koussevitzky, Amarendra Narayan Misra, Ron Mittler, and David Shintani* 421
- [W] Characterization of New Maize Genes Putatively Involved in Cytokinin Metabolism and Their Expression during Osmotic Stress in Relation to Cytokinin Levels. *Šárka Vyroubalová, Kateřina Václavíková, Veronika Turečková, Ondřej Novák, Mária Šmehilová, Tomáš Hluska, Ludmila Ohnoutková, Ivo Frébort, and Petr Galuszka* 433

PLANTS INTERACTING WITH OTHER ORGANISMS

- [W][OA] The Arabidopsis *RESURRECTION1* Gene Regulates a Novel Antagonistic Interaction in Plant Defense to Biotrophs and Necrotrophs. *Hyung Gon Mang, Kristin A. Laluk, Eugene P. Parsons, Dylan K. Kosma, Bruce R. Cooper, Hyeong Cheol Park, Synan AbuQamar, Claudia Bocconcelli, Saori Miyazaki, Federica Consiglio, Gabriele Chilosi, Hans J. Bohnert, Ray A. Bressan, Tesfaye Mengiste, and Matthew A. Jenks* 290

WHOLE PLANT AND ECOPHYSIOLOGY

- Evidence That Light, Carbon Dioxide, and Oxygen Dependencies of Leaf Isoprene Emission Are Driven by Energy Status in Hybrid Aspen. *Bahtijor Rasulov, Katja Hüve, Mikk Välbe, Agu Laisk, and Ülo Niinemets* 448

SYSTEMS BIOLOGY, MOLECULAR BIOLOGY, AND GENE REGULATION

- [W][OA] Defining Core Metabolic and Transcriptomic Responses to Oxygen Availability in Rice Embryos and Young Seedlings. *Reena Narsai, Katharine A. Howell, Adam Carroll, Aneta Ivanova, A. Harvey Millar, and James Whelan* 306
- [OA] Arabidopsis Separase Functions beyond the Removal of Sister Chromatid Cohesion during Meiosis. *Xiaohui Yang, Kingsley A. Boateng, Lara Strittmatter, Rebecca Burgess, and Christopher A. Makaroff* 323
- [W] Polyphenoloxidase Silencing Affects Latex Coagulation in *Taraxacum* Species. *Daniela Wahler, Christian Schulze Gronover, Carolin Richter, Florence Foucu, Richard M. Twyman, Bruno M. Moerschbacher, Rainer Fischer, Jost Muth, and Dirk Prüfer* 334
- [C][W] Channelrhodopsins of *Volvox carteri* Are Photochromic Proteins That Are Specifically Expressed in Somatic Cells under Control of Light, Temperature, and the Sex Inducer. *Arash Kianianmomeni, Katja Stehfest, Ghazaleh Nematollahi, Peter Hegemann, and Armin Hallmann* 347
- [W] Ribonucleotide Reductase Regulation in Response to Genotoxic Stress in Arabidopsis. *Hélène Roa, Julien Lang, Kevin M. Culligan, Murielle Keller, Sarah Holec, Valérie Cognat, Marie-Hélène Montané, Guy Houlné, and Marie-Edith Chabouté* 461
- [W][OA] A Genetic Screen for Nitrate Regulatory Mutants Captures the Nitrate Transporter Gene *NRT1.1*. *Rongchen Wang, Xiujuan Xing, Yong Wang, Amy Tran, and Nigel M. Crawford* 472

CORRECTIONS

A Transcriptome-Based Characterization of Habituation in Plant Tissue Culture. *M.S. Pischke, E.L. Huttlin, A.D. Hegeman, and M.R. Sussman*

479

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^[W] Indicates Web-only data.

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