



Editorial

Editorial for the Special Issue “Genetic Sight: Plant Traits during Postharvest”

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Modern breeding alternatives are less costly and sustainable solutions to increase quality, resistance to biotic and abiotic stresses, and to reduce postharvest losses of crops. Omic technologies, namely genomics, transcriptomics, proteomics, metabolomics, and phenomics, provide an efficient way to develop better cultivars. With this regard, review of the established omics technologies for fodder quality improvement through the improvement of the forage nutrition quality, edible quality, and digestibility is included in this special issue [1]. Similarly, studies of genetic relationships among the family, genera or cultivars of crops through molecular markers could assist in developing resistant cultivars to diseases and pests [2], to select super-earliness QTLs for prevention of heat-induced drought stress [3], and assist in seed production through profiling the pattern of protein expression under different crossing periods [4].

As the scope of research has expanded, studies have increasingly focused on the molecular mechanisms regulating a specific trait. This special issue incorporated about the regulation of flower development by CYC-like genes with their different functions and phylogenetic relationships in plant groups [5], function of DUF26 domain-containing genes to regulate the submergence tolerance of wild rice [6], and LbPYLs was suggested as good candidates to enhance Lycium resistance to drought and hot environments [7].

Considering postharvest qualities, candidate genes of plum associated with pulp color, anthocyanin biosynthesis and flavonoid biosynthesis [8], anthocyanin biosynthesis related MYBs in highbush blueberry [9], the potential genetic loci controlling quality traits of melons [10], and genes responsible for softening and ripening in kiwifruit cultivars treated with ethylene [11] were reported.

Generally, as this special issue belongs to the section “Molecular Plant Sciences” and considering the interest of authors to contribute in this special issue, the editorial team tried to observe the broad spectrum, and eleven research articles [2–4,6–13] and two reviews [1,5] were included.

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References

1. Kumar, P.; Singh, J.; Kaur, G.; Adunola, P.M.; Biswas, A.; Bazzar, S.; Kaur, H.; Kaur, I.; Kaur, H.; Sandhu, K.S.; et al. OMICS in Fodder Crops: Applications, Challenges, and Prospects. *Curr. Issues Mol. Biol.* **2022**, *44*, 5440–5473. [[CrossRef](#)] [[PubMed](#)]
2. Szwarc, J.; Niemann, J.; Kaczmarek, J.; Bocianowski, J.; Weigt, D. Genetic Relationship of Brassicaceae Hybrids with Various Resistance to Blackleg Is Disclosed by the Use of Molecular Markers. *Curr. Issues Mol. Biol.* **2022**, *44*, 4290–4302. [[CrossRef](#)] [[PubMed](#)]
3. Sari, H.; Eker, T.; Tosun, H.S.; Mutlu, N.; Celik, I.; Toker, C. Mapping QTLs for Super-Earliness and Agro-Morphological Traits in RILs Population Derived from Interspecific Crosses between *Pisum sativum* × *P. fulvum*. *Curr. Issues Mol. Biol.* **2023**, *45*, 663–676. [[CrossRef](#)] [[PubMed](#)]
4. Malik, A.; Mor, V.S.; Punia, H.; Duhan, D.S.; Tokas, J.; Bhuker, A.; Alyemeni, M.N.; Shakoor, A. Development and Optimization of Label-Free Quantitative Proteomics under Different Crossing Periods of Bottle Gourd. *Curr. Issues Mol. Biol.* **2023**, *45*, 1349–1372. [[CrossRef](#)] [[PubMed](#)]
5. Chai, Y.; Liu, H.; Chen, W.; Guo, C.; Chen, H.; Cheng, X.; Chen, D.; Luo, C.; Zhou, X.; Huang, C. Advances in Research on the Regulation of Floral Development by CYC-like Genes. *Curr. Issues Mol. Biol.* **2023**, *45*, 2035–2059. [[CrossRef](#)] [[PubMed](#)]
6. Huang, C.; Wang, D.; Chen, H.; Deng, W.; Chen, D.; Chen, P.; Wang, J. Genome-Wide Identification of DUF26 Domain-Containing Genes in Dongxiang Wild Rice and Analysis of Their Expression Responses under Submergence. *Curr. Issues Mol. Biol.* **2022**, *44*, 3351–3363. [[CrossRef](#)] [[PubMed](#)]
7. He, W.; Liu, M.; Qin, X.; Liang, A.; Chen, Y.; Yin, Y.; Qin, K.; Mu, Z. Genome-Wide Identification and Expression Analysis of the Aquaporin Gene Family in *Lycium barbarum* during Fruit Ripening and Seedling Response to Heat Stress. *Curr. Issues Mol. Biol.* **2022**, *44*, 5933–5948. [[CrossRef](#)] [[PubMed](#)]
8. Wang, G.; Weng, W.; Jia, Z.; Zhang, J.; Wang, T.; Xuan, J. Identification of Candidate Genes Associated with Pulp Color by Transcriptomic Analysis of ‘Huaxiu’ Plum (*Prunus salicina* Lindl.) during Fruit-Ripening. *Curr. Issues Mol. Biol.* **2022**, *44*, 6368–6384. [[CrossRef](#)] [[PubMed](#)]
9. Zhang, Y.; Huang, D.; Wang, B.; Yang, X.; Wu, H.; Qu, P.; Yan, L.; Li, T.; Cheng, C.; Qiu, D. Characterization of Highbush Blueberry (*Vaccinium corymbosum* L.) Anthocyanin Biosynthesis Related MYBs and Functional Analysis of VcMYB Gene. *Curr. Issues Mol. Biol.* **2023**, *45*, 379–399. [[CrossRef](#)] [[PubMed](#)]
10. Zhao, H.; Zhang, T.; Meng, X.; Song, J.; Zhang, C.; Gao, P. Genetic Mapping and QTL Analysis of Fruit Traits in Melon (*Cucumis melo* L.). *Curr. Issues Mol. Biol.* **2023**, *45*, 3419–3433. [[CrossRef](#)]
11. Choi, H.R.; Baek, M.W.; Jeong, C.S.; Tilahun, S. Comparative Transcriptome Analysis of Softening and Ripening-Related Genes in Kiwifruit Cultivars Treated with Ethylene. *Curr. Issues Mol. Biol.* **2022**, *44*, 2593–2613. [[CrossRef](#)] [[PubMed](#)]
12. Mardini, M.; Ermolaev, A.; Khrustaleva, L. Hidden Pitfalls of Using Onion Pollen in Molecular Research. *Curr. Issues Mol. Biol.* **2023**, *45*, 1065–1072. [[CrossRef](#)] [[PubMed](#)]
13. Ma, X.; Yu, Y.; Hu, Z.; Huang, H.; Li, S.; Yin, H. Characterizations of a Class-I BASIC PENTACYSTEINE Gene Reveal Conserved Roles in the Transcriptional Repression of Genes Involved in Seed Development. *Curr. Issues Mol. Biol.* **2022**, *44*, 4059–4069. [[CrossRef](#)] [[PubMed](#)]

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