

In addition, plant growth regulators and biostimulants (such as abscisic acid (ABA), methyl jasmonate, and seaweed extracts) show potential in improving cracking resistance and regulating fruit ripening. However, their effects are strongly influenced by cultivar and year, and standardized application protocols have not yet been established (Ruiz-Aracil et al., 2023).

Author Contributions

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Conflict of Interest Disclosure

The authors affirm that this research was conducted without any commercial or financial relationships that could be construed as a potential conflict of interest.

References

- Abdipour M., Malekhossini P., Hosseinfarahi M., and Radi M., 2020, Integration of UV irradiation and chitosan coating: A powerful treatment for maintaining the postharvest quality of sweet cherry fruit, *Scientia Horticulturae*, 264: 109197.
<https://doi.org/10.1016/j.scienta.2020.109197>
- Afonso S., Oliveira I., Ribeiro C., Vilela A., Meyer A.S., and Gonçalves B., 2024, Exploring the Role of Biostimulants in Sweet Cherry (*Prunus avium* L.) Fruit Quality Traits, *Agriculture*, 14(9): 1521.
<https://doi.org/10.3390/agriculture14091521>
- Ampatzidis Y., and Whiting M., 2013, Training System Affects Sweet Cherry Harvest Efficiency, *HortScience*, 48(5): 547-555.
<https://doi.org/10.21273/HORTSCI.48.5.547>
- Anthony B.M., and Minas I.S., 2021, Optimizing peach tree canopy architecture for efficient light use, increased productivity and improved fruit quality, *Agronomy*, 11(10): 1961.
<https://doi.org/10.3390/agronomy11101961>
- Ayala M., and Lang G., 2017, Morphology, cropping physiology and canopy training, In: *Cherries: Botany, Production and Uses*, pp.269-304.
<https://doi.org/10.1079/9781780648378.0269>
- Aydın E., Cengiz M., Demirsoy L., and Demirsoy H., 2025, A Hybrid Analytical Framework for Cracking and Some Fruit Quality Features in Sweet Cherries, *Horticulturae*, 11(6): 709.
<https://doi.org/10.3390/horticulturae11060709>
- Balbontin C., Ayala H., Bastías R., Tapia G., Ellena M., Torres C., Yuri J.A., Quero-García J., Ríos J.C., and Silva H., 2013, Cracking in sweet cherries: A comprehensive review from a physiological, molecular, and genomic perspective, *Chilean Journal of Agricultural Research*, 73(1): 66-72.
<https://doi.org/10.4067/S0718-58392013000100010>
- Blanco V., Blaya-Ros P.J., Torres-Sánchez R., and Domingo R., 2022, Irrigation and Crop Load Management Lessen Rain-Induced Cherry Cracking, *Plants*, 11(23): 3249.
<https://doi.org/10.3390/plants11233249>
- Blanco V., Zoffoli J.P., and Ayala M., 2021, Influence of High Tunnel Microclimate on Fruit Quality and Calcium Concentration in 'Santina' Sweet Cherries in a Mediterranean Climate, *Agronomy*, 11(6): 1186.
<https://doi.org/10.3390/agronomy11061186>
- Bustamante M., Muñoz A., Romero I., Osorio P., Mánquez S., Arriola R., Reyes-Díaz M., and Ribera-Fonseca A., 2021, Impact of Potassium Pre-Harvest Applications on Fruit Quality and Condition of Sweet Cherry (*Prunus avium* L.) Cultivated under Plastic Covers in Southern Chile Orchards, *Plants*, 10(12): 2778.
<https://doi.org/10.3390/plants10122778>
- Correia S., Schouten R., Silva A.P., and Gonçalves B., 2017, Factors Affecting Quality and Health Promoting Compounds during Growth and Postharvest Life of Sweet Cherry (*Prunus avium* L.), *Frontiers in Plant Science*, 8: 2166.
<https://doi.org/10.3389/fpls.2017.02166>
- Correia S., Schouten R., Silva A.P., and Gonçalves B., 2018, Sweet cherry fruit cracking mechanisms and prevention strategies: A review, *Scientia Horticulturae*, 240: 369-377.
<https://doi.org/10.1016/j.scienta.2018.06.042>
- Gonçalves B., Correia C.M., Silva A.P., Bacelar E.A., Santos A., and Moutinho-Pereira J.M., 2008, Leaf structure and function of sweet cherry tree (*Prunus avium* L.) cultivars with open and dense canopies, *Scientia Horticulturae*, 116(4): 381-387.
<https://doi.org/10.1016/j.scienta.2008.02.013>
- Gonçalves B., Silva V., Bacelar E., Guedes F., Ribeiro C., Da Silva A.P., and Pereira S., 2023, Orchard Net Covers Improve Resistance to Cherry Cracking Disorder, *Foods*, 12(3): 543.
<https://doi.org/10.3390/foods12030543>
- Hansen S., and Black B., 2019, The response of 'Montmorency' tart cherry to renewal pruning strategies in a high density system, *J. Am. Pom. Soc.*, 73(1): 53-61.
<https://doi.org/10.71318/apom.2019.73.1.53>