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I. PUBLICACIONES (2015 – presente)

Publicaciones en revistas indexadas (ISI)

1. Núñez-Lillo, G., Ponce, E., Beyer, C. P., **Álvaro, J. E.**, Meneses, C., & Pedreschi, R. (2024). A First Omics Data Integration Approach in Hass Avocados to Evaluate Rootstock–Scion Interactions: From Aerial and Root Plant Growth to Fruit Development. *Plants*, 13(5), doi: 603. <https://doi.org/10.3390/plants13050603>
2. Fuentealba, C., Álvarez, F., Ponce, E., Veas, S., Salazar, M., Romero, D., Ayala-Raso, A., **Alvaro, J. E.**, Valdenegro, M., Figueroa, C. R., & Fuentes, L. (2024). Differences in primary metabolism related to quality of raspberry (*Rubus idaeus* L.) fruit under open field and protected soilless culture growing conditions. *Frontiers In Plant Science*, 14. doi: <https://doi.org/10.3389/fpls.2023.1324066>
3. Álvarez, F., Moya, M., Rivera-Mora, C., Zúñiga, P. E., Jara-Cornejo, K., Muñoz, P., Ayala-Raso, A., Munné-Bosch, S., Figueroa, C. R., Figueroa, N. E., Valdenegro, M., **Alvaro, J. E.**, Schwab, W., Defilippi, B. G., & Fuentes, L. (2023). Abscisic Acid Synthesis and Signaling during the Ripening of Raspberry (*Rubus idaeus* ‘Heritage’) Fruit. *Plants*, 12(9), 1882. doi: <https://doi.org/10.3390/plants12091882>
4. Hernández, I., Molina, V., Fuentealba, C., **Alvaro, J. E.**, Defilippi, B. G., & Pedreschi, R. (2023). Do Rootstocks Influence Global Fruit Quality, Postharvest Performance and Metabolite Profiles of *Persea americana* cv. Hass? *Horticulturae*, 9(2), doi: 184. <https://doi.org/10.3390/horticulturae9020184>
5. Tamayo, M., Sepúlveda, L., Guequen, E. P., Saavedra, P., Pedreschi, R., Cáceres-Mella, A., **Alvaro, J. E.**, & Cuneo, I. F. (2023). Hydric Behavior:

Insights into Primary Metabolites in Leaves and Roots of Cabernet Sauvignon and Grenache Grapevine Varieties under Drought Stress. *Horticulturae*, 9(5),66. doi:

<https://doi.org/10.3390/horticulturae9050566>

6. García-Ríos, D., **Alvaro, J. E.**, Zuñiga, M. E., Campos, D., Aguilar-Galvez, A., Mariotti-Celis, M. S., Pedreschi, F., & Pedreschi, R. (2023). Targeted Primary and Secondary Metabolite Analysis of Colored Potato “Michuñe Negra” Grown in Soilless Culture and during Prolonged Cold Storage: Implications in Acrylamide Formation during Frying. *Agronomy*, 13(5), 1209. <https://doi.org/10.3390/agronomy13051209>
7. Beyer CP, Barrientos-Sanhueza C, Ponce E, Pedreschi R, Cuneo I, **Álvaro JE** (2022). Differential Hydraulic Properties and Primary Metabolism in Fine Root of Avocado Trees Rootstocks. *Plants* 11(8); doi: 10.3390/plants11081059
8. Nuñez-Lillo G, Ponce E, **Alvaro JE**, Campos D, Meneses C, Campos-Vargas R, Carpentier S, Fuentealba C, Pedreschi R (2022). Proteomics analysis reveals new insights into surface pitting of sweet cherry cultivars displaying contrasting susceptibility. *Journal of Horticultural Science and Biotechnology*; doi: 10.1080/14620316.2022.2056088
9. Monsalve L, Bernales M, Ayala-Raso A, Álvarez F, Valdenegro M, Alvaro JE, Figueroa CR, Defilippi BG, Fuentes L (2022). Relationship between Endogenous Ethylene Production and Firmness during the Ripening and Cold Storage of Raspberry (*Rubus idaeus* ‘Heritage’) Fruit. *Horticulturae* 8(3); doi:10.3390/horticulturae8030262
10. Beyer C P, Cuneo I, **Alvaro JE**, Pedreschi R (2021). Confronting the differential physiology of 'Hass' avocado grafted onto two different rootstocks in a controlled environment. *Acta Horticulturae* 1327; doi: 10.17660/ActaHortic.2021.1327.16
11. Beyer C, Cuneo IF, **Álvaro JE**, Pedreschi R (2021). Evaluation of aerial and root plant growth behavior, water and nutrient use efficiency and carbohydrate dynamics for Hass avocado grown in a soilless and protected growing system. *Scientia Horticulturae* 277; doi: 10.1016/j.scienta.2020.109830
12. Barrientos-Sanhueza C, Mondaca P, Tamayo M, **Álvaro JE**, Díaz-Barrera

- A, Cuneo, I (2021). Enhancing the mechanical and hydraulic properties of coarse quartz sand using a water-soluble hydrogel based on bacterial alginate for novel application in agricultural contexts. **Soil Science Society of America Journal**; doi: 10.1002/saj2.20315
13. Lindh V, Uarrota V, Zulueta C, **Álvaro JE**, Valdenegro M, Cuneo I, Mery D, Pedreschi R (2021) Image Analysis Reveals That Lenticel Damage Does Not Result in Black Spot Development but Enhances Dehydration in *Persea americana* Mill. cv. Hass during Prolonged Storage. **Agronomy**; 11(9); doi: 10.3390/agronomy11091699
 14. Gallegos J, **Álvaro JE**, Urrestarazu M. (2020). Container Design Affects Shoot and Root Growth of Vegetable Plant. **HortScience horts** 55(6); doi: 10.21273/HORTSCI14954-20
 15. **Álvaro JE**, Calabrese C, Nguyen TB, Trusler JPM, Vesovic V (2020) Measurements and modelling of the viscosity of six synthetic crude oil mixtures, **Fluid Phase Equilibria** 505; doi: 10.1016/j.fluid.2019.112343.
 16. Urrestarazu M, Gallegos-Cedillo VM, Ferron-Carrillo F, Guil-Guerrero JL, Lao MT, **Álvaro JE** (2019) Effects of the electrical conductivity of a soilless culture system on gamma linolenic acid levels in borage seed oil. **PLoS ONE** 14(2): e0207106; doi: 10.1371/journal.pone.0207106.
 17. Rodríguez F, Pedreschi R, Fuentealba C, de Kartzow A, Olaeta JA, **Álvaro JE** (2019) The increase in electrical conductivity of nutrient solution enhances compositional and sensory properties of tomato fruit cv. Patrón. **Scientia Horticulturae**; doi: 10.1016/j.scienta.2018.09.059.
 18. Gallegos-Cedillo V.M, **Álvaro JE**, Capatos T.H, Hachmann T.L, Carrasco G, Urrestarazu M (2018) Effect of pH and silicon in the fertigation solution on vegetative growth of blueberry plants in organic agriculture. **HortScience** 53(10); doi: 10.21273/HORTSCI13342-18.
 19. Najera C, Guil-Guerrero JL, Enriquez LJ, **Álvaro JE**, Urrestarazu, M (2018) LED-enhanced dietary and organoleptic qualities in postharvest tomato fruit. **Postharvest Biology and Technology** 145; doi: 10.1016/j.postharvbio.2018.07.008.
 20. Severino C, Elizondo R, **Álvaro JE**, Oyanedel E (2017) Densidad y manejo de ejes en plantas injertadas de tomate indeterminadas en invernadero.

Horticultura Brasileira 35(4), 542-548, doi: 10.1590/s0102-053620170411.

21. Urrestarazu M, Carrasco G, **Álvaro JE** (2017) Design of a Modular Vegetative Unit and Fertigation Management for Noise-Abatement Walls in a Semiarid Climate. **Journal of Irrigation and Drainage Engineering** 143; doi: 10.1061/(ASCE)IR.1943-4774.0001147.
22. Moya C, Oyanedel E, Verdugo G, Flores M.F, Urrestarazu M, **Álvaro JE** (2017) Increased Electrical Conductivity in Nutrient Solution Management Enhances Dietary and Organoleptic Qualities in Soilless Culture Tomato. **HortScience** 52(6); doi: 10.21273/HORTSCI12026-17.
23. Moya H, Verdejo J, Yáñez C, **Álvaro JE**, Sauvé S, Neaman A (2017) Nitrification and nitrogen mineralization in agricultural soils contaminated by copper mining activities in Central Chile. **Journal of soil science and plant nutrition** 17(1), 205-213; doi: 10.4067/S0718-95162017005000016.
24. Urrestarazu M, Gallegos V, **Álvaro JE** (2017) The Use of Thermography Images in the Description of the Humidification Bulb in Soilless Culture. **Communications in Soil Science and Plant Analysis** 48(13), 1595-1602; doi: 10.1080/00103624.2017.1374399.
25. **Álvaro JE**, Lao MT, Urrestarazu M, Baghour M, Abdelmajid M (2016) Effect of nutrient solution salinity and ionic concentration on parsley (*Petroselinum crispum* Mill.) essential oil yield and content. **Journal of Plant Nutrition** 39(8), 1057-1062; doi: 10.1080/01904167.2015.1061552.
26. Gallegos-Cedillo VM, M Urrestarazu & **Álvaro JE** (2016) Influence of salinity on transport of Nitrates and Potassium by means of the xylem sap content between roots and shoots in young tomato plants. **Journal of Soil Science and Plant Nutrition** 16: 991-998.
27. Urrestarazu M, I Morales, T La Malfa, R Checa, AF Wamser & **Álvaro JE** (2015) Effects of fertigation duration on the pollution, water consumption, and productivity of soilless vegetable cultures. **HortScience** 50: 819-825.
28. Azkorra Z, G Pérez, J Coma, LF Cabeza, S Burés, **Álvaro JE** & M Urrestarazu (2015) Evaluation of green walls as a passive acoustic insulation system for buildings. **Applied Acoustics** 89: 46-56; doi: 10.1016/j.apacoust.2014.09.010

29. Wamser AF, I Morales, **Álvaro JE** & M Urrestarazu (2015) Effect of the drip flow rate with multiple manifolds on the homogeneity of the delivered volume. *Journal of Irrigation and Drainage Engineering* 141: 04014048; doi: 10.1061/(ASCE)IR.1943-4774.0000780
30. Pozo J, M Urrestarazu, I Morales, J Sanchez, M Santos, F Dianez & **Álvaro JE** (2015) Effects of silicon in the nutrient solution for three horticultural plant families on the vegetative growth, cuticle, and protection against *Botrytis cinerea*. *HortScience* 50: 1447-1452.
31. Pozo J, **Álvaro JE**, I Morales, J Requena, T La Malfa, P Mazuela & M Urrestarazu (2015) A New Local Sustainable Inorganic Material for Soilless Culture in Spain: Granulated Volcanic Rock. *HortScience*. 49: 1537-1541

Otras Publicaciones no indexadas

1. Aguilera E, C Moya, **Álvaro JE**, Urrestarazu M (2015) Contribución de la jardinería hidropónica vertical a los muros de mitigación acústica en las vías de comunicación urbana e interurbana. *Agrícola Vergel* 384: 2-5.
2. Urrestarazu, M, Morales I, La Malfa T, Checa R, Wamser A, **Álvaro JE** (2015) Efectos de la aplicación del tiempo de riego en cultivos de tomate y pimiento. *Agrícola Vergel* 385: 225-231

II. EXPERIENCIA EN PROYECTOS DE INVESTIGACION (2015 – presente)

Proyectos con fondos concursables

2023 – 2024 **Co-investigador. FOVI230013, ANID.** Fortalecimiento de las capacidades de formación, investigación e innovación para el desarrollo sustentable de la agricultura en ambientes controlados en zonas áridas.

2023 – 2026 **Co-investigador. PID2022-143070NB-I00, Proyectos de Generación De Conocimiento, Ministerio de Ciencia e Innovación, España.** Novel gamma-linolenic and stearidonic acid-based phospholipids: from design to the assessment of their in vitro health properties.

2022 – 2024 **Co-investigador. FOVI220031, ANID.** Fortalecimiento de las

capacidades de formación e investigación para el desarrollo de la agricultura urbana en ambiente controlado a través de la incorporación de tecnologías sustentables

2022 – 2026 **Co-investigador. FONDECYT REGULAR 1220235, ANID.** Unravelling the biophysical modulations of the soil-mucilage-root interface in response to drought and its impact on stomatal responses in different crop species (SoMuRo).

2019 – 2022 **Co-investigador. FONDECYT REGULAR 1201662, CONICYT.** Regulation of firmness loss in raspberry fruit: role of annexin and calmodulin and their regulation by abscisic acid, ethylene, and calcium.

2019 – 2020 **Co-investigador. PCI, CONICYT.** Novel application of LED lighting in growing system for leaf horticultural crops.

2019 – 2020 **PCI REDBIO0001, CONICYT.** Red de investigación Perú-Chile: compartiendo experiencias y desafíos relacionados a la biotecnología vegetal, industrial & bioprocesos.

2018 – 2020 **Investigador. PCI REDI170422.** “Entendiendo la complejidad metabólica y nutricional de frutos en poscosecha: una perspectiva integradora desde la Biología de Sistema”.

2015 – 2018 **Co-investigador.** Modelo de producción sostenible de nuevas especies de borraja para la obtención de aceite funcionales ricos en gamma linolénicos (MOSOSBO)

2014 – 2017 **FONDECYT - CONDECYT 11140154.** “Changes in organoleptic and nutraceutical properties of tomato fruits as affected by variations in ec value and climatic conditions”.