

DOCTORADO EN CIENCIAS AGROALIMENTARIAS

**Romina Pedreschi Plasencia**

**Publicaciones (2016- presente)**

1. Aguilar-Galvez A, García-Ríos D, Janampa C, Mejía C, Chirinos R, **Pedreschi R**, Campos D. 2021. Metabolites, volatile compounds and in vitro functional properties during growth and commercial harvest of Peruvian lucuma (*Pouteria lucuma*). Food Bioscience, <https://doi.org/10.1016/j.fbio.2021.100882>, Q2.
2. Hernández I, Uarrota V, Paredes D, Fuentealba C, Defilippi B, Campos-Vargas R, Meneses C, Hertog M, **Pedreschi R**. 2021. Can metabolites at harvest be used as physiological markers for modelling the softening behaviour of Chilean Hass avocados destined to local and distant markets? Postharvest Biology & Technology, 174, 111457, Q1.
3. Uarrota V, Maraschin V, de Bairros A, **Pedreschi R**. 2021. Factors affecting the capsaicinoid profile of hot peppers and biological activity of their non-pungent analogues (capsinoids) present in sweet peppers. Critical Reviews in Food Science and Nutrition, 61, 649-665. Q1.
4. Chirinos R, Cerna M, **Pedreschi R**, Calsin M, Aguilar-Galvez A, Campos D. 2021. Multifunctional in vitro bioactive properties: antioxidant, antidiabetic and antihypertensive of protein hydrolyzates from Tarwi (*Lupinus mutabilis* Sweet) obtained by enzymatic biotransformation. Cereal Chemistry, accepted, Q2.
5. Beyer C, Cuneo I, Alvaro J.E, **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, 109830. Q1.
6. Fuentealba C, Ejsmentewicz T, Campos-Vargas R, Saa S, Aliaga O, Chirinos R, Campos D, **Pedreschi R**. 2021. Cell wall and metabolite composition of sweet cherry fruits from two cultivars with contrasting susceptibility to surface pitting during storage. Food Chemistry, 342, 128307, Q1.
7. Covarrubias M.P, Lillo-Carmona V, Melet L, Benedetto G, Andrade D, Maucourt M, Deborde C, Fuentealba C, Moing A, Valenzuela M.L, **Pedreschi R**, Miyasaka Almeida A. 2021. Primary metabolite fruit profile is altered in response to source-sink imbalance and can be used as early predictor in nectarine. Frontiers in Plant Science, 11, 604133, Q1.
8. Mejía-Aguila R, Aguilar-Gálvez A, Chirinos R, **Pedreschi R**, Campos D. 2021. Vacuum impregnation of apple slices with Yacon (*Smallanthus sonchifolius* Poepp & Endl) fructooligosaccharides to enhance the functional properties of the fruit snack. International Journal of Food Science and Technology, 56, 392-401, Q2.
9. Chirinos R, Sánchez-Sandoval R, **Pedreschi R**, Campos D. 2020. Enzyme-assisted hydrolysates from sacha inchi (*Plukenetia volubilis*) protein with in vitro antioxidant and antihypertensive properties. Journal of Food Processing and Preservation, 44, e14969, Q3.

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10. Chirinos R, **Pedreschi R**, Velásquez-Sánchez M, Aguilar-Gálvez A, Campos D. 2020. In vitro antioxidant and angiotensine-I converting enzyme inhibitory properties of enzymatically hydrolyzed quinoa (*Chenopodium quinoa*) and kiwicha (*Amaranthus caudatus*) proteins. *Cereal Chemistry*, 97, 949-957, Q2.
11. Lillo-Carmona V, Espinoza A, Rothkegel K, Nilo-Poyanco D, **Pedreschi R**, Campos-Vargas R, Meneses C. 2020. Identification of metabolite and lipid profile in a segregating peach population associated with mealiness in peach. *Metabolites*, 10, 154. Q2.
12. Uarrota V, Hernandez I, Ponce Guequen E, Vidal J, Fuentealba C, Defilippi B, Lindh V, Zulueta C, Chirinos R, Campos D, **Pedreschi R**. 2020. Unraveling factors associated with “Blackspot” disorder in stored Hass avocado (*Persea americana* Mill) fruit. *Journal of Horticultural Sciences & Biotechnology*, 95, 804-815, Q2.
13. García-Ríos D, Aguilar-Galvez A, Chirinos R, **Pedreschi R**, Campos D. 2020. Relevant metabolites for the organoleptic and functional properties of two commercial varieties of Peruvian Pouteria lucuma. *Journal of Food Processing and Preservation*, 44, e14479. Q3.
14. Porras-Mija I, Chirinos R, García-Ríos D, Aguilar-Galvez A, Huamán-Alvino C, **Pedreschi R**, Campos D. 2020. Physico-chemical characterization, metabolomic profile and in vitro antioxidant, antihypertensive, antiobesity and antidiabetic properties of Andean elderberry (*Sambucus nigra* L). *Journal of Berry Research*, 10, 193-208. Q2.
15. Campos D, Terán-Hilares F, Chirinos R, Aguilar-Galvez A, García-Ríos D, Pacheco-Avalos A, **Pedreschi R**. 2020. Bioactive compounds and antioxidant activity from harvest to edible ripeness of avocado cv. Hass (*Persea americana*) throughout the harvest seasons. *International Journal of Food Science & Technology*, 55, 2208-2218. Q2.
16. Alvarado L, Saa S, Cuneo I, **Pedreschi R**, Morales J, Larach A, Barros W, Besoain X. 2020. A comparison of immediate and short-term defensive responses to *Phytophthora* species infection in both susceptible and resistant walnut rootstocks. *Plant Disease*, 104, 921-929. Q1.
17. Aguilar-Galve A, **Pedreschi R**, Carpentier S, Chirinos R, García-Ríos D, Campos D. 2020. Proteomics analysis of mashua (*Tropaelum tuberosum*) tubers subjected to postharvest treatments. *Food Chemistry* 305, 125485. Q1.
18. Rodríguez F, **Pedreschi R**, Fuentealba C, de Kartzow A, Olaeta JA, Alvaro JE. 2019. The increase in electrical conductivity of nutrient solution enhances compositional and sensory properties of tomato fruit cv. Patrón. *Scientia Horticulturae* 244: 388-398. Q1.
19. Carrasco-Valenzuela T, Muñoz-Espinoza C, Riberos A, **Pedreschi R**, Arus P, Campos-Vargas R, Meneses C. 2019. Expression QTL (eQTLs) analyses reveal candidate genes associated with fruit flesh softening rate in peach [*Prunus persica* (L.) Batsch]. *Frontiers in Plant Sciences* 10: 1581. Q1.

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20. **Pedreschi R**, Uarrota V, Fuentealba C, Alvaro J, Olmedo P, Defilippi B, Meneses C, Campos-Vargas R. 2019. Primary metabolism in avocado fruit. *Frontiers in Plant Science* 10: 795. Q1.
21. Gálvez Ranilla L, Huamán-Alvino C, Flores-Báez O, Aquino- Méndez E, Chirinos R, Campos D, Sevilla R, Fuentealba C, **Pedreschi R**, Sarkar D, Shetty K. 2019. Evaluation of phenolic antioxidant-linked in vitro bioactivity of Peruvian corn (*Zea mays L.*) diversity targeting for potential management of hyperglycemia and obesity. *Journal of Food Science & Technology* 56, 2909-2924. Q2.
22. Uarrota V, Fuentealba C, Hernández I, Defilippi B, Meneses C, Campos-Vargas R, Hertog M, Nicolai B, Carpentier S, Poblete-Echeverría C, **Pedreschi R**. 2019. Integration of proteomics and metabolomics data of early and middle season Hass avocados under heat treatment. *Food Chemistry* 289, 512-521. Q1.
23. Campos D, Aguilar-Gálvez A, García-Ríos D, Chirinos R, Limaymanta E, **Pedreschi R**. 2019. Postharvest storage and cooking techniques affect the stability of glucosinolates and myrosinase activity of Andean mashua tubers (*Tropaeolum tuberosum*). *International Journal of Food Science & Technology* 54, 2387-2395. Q2.
24. García-Mazcorro J, **Pedreschi R**, Chew B, Dowd S, Kawas J, Noratto G. 2019. Dietary supplementation with apple extracts modifies the fecal microbiota in obese diabetic db/db mice. *Plos One*, 14: e0212586. Q2.
25. Vergara-Pulgar C, Rothkegel K, **Pedreschi R**, Campos-Vargas R, González-Agüero M, Defilippi B, Meneses C. 2019. De novo assembly and profile of *Persea americana* cv. 'Hass' transcriptome during fruit development. *BMC Genomics* 20:108. Q2.
26. Zepeda B, Olmedo P, Ejsmentewics T, Sepúlveda P, Balic I, Balladares C, Delgado-Rioseco J, Fuentealba C, Moreno A, Defilippi B, Meneses C, **Pedreschi R**, Campos-Vargas R. 2018. Cell wall and metabolite composition of berries of *Vitis vinifera* (L.) cv. Thompson Seedless with different firmness. *Food Chemistry* 268: 492-497. Q1.
27. Chirinos R, Ochoa K, Aguilar-Gálvez A, Carpentier S, **Pedreschi R**, Campos D. 2018. Obtaining of peptides with in vitro antioxidant and angiotensin I converting enzyme inhibitory activities from cañihua protein (*Chenopodium pallidicaule* Aellen). *Journal of Cereal Science* 83: 139-146. Q2.
28. Pedreschi F, Saavedra I, Bunger A, Zuñiga R, **Pedreschi R**, Chirinos R, Campos D, Mariotti-Celis MS. 2018. Tara pod (*Caesalpinia spinosa*) extract mitigates neo-contaminant formation in Chilean bread preserving their sensory attributes. *LWT Food Science & Technology* 95: 116-122. Q1.
29. García-Mazcorro JF, **Pedreschi R**, Chew B, Dowd SE, Kowas JR, Noratto G. 2018. Dietary supplementation with raspberry extracts modifies the fecal microbiota in obese diabetic db/db mice. *Journal of Microbiology & Biotechnology* 28: 1247-1259. Q3.
30. Terán-Hilares R, Chirinos R, **Pedreschi R**, Campos D. 2018. Enhanced antioxidant properties of tara (*Caesalpinia spinosa*) gallotannins by thermal hydrolysis and its synergistic effects with  $\alpha$ -tocopherol,

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ascorbyl palmitate, and citric acid on sachu inchi (*Plukenetia volubilis*) oil. *Journal of Food Process Engineering* 41: e12613. Q3.

31. Hernández I, Fuentealba C, Olaeta JA, Poblete C, Defilippi B, González M, Campos-Vargas R, Lurie S, **Pedreschi R**. 2017. Effects of heat shock and nitrogen shock pre-treatments on ripening heterogeneity of Hass avocados stored in controlled atmosphere. *Scientia Horticulturae* 225: 408-415. Q1.

32. Fuentealba C, Hernández I, Olaeta JA, Defilippi B, Meneses C, Campos-Vargas R, Lurie S, Carpentier S, **Pedreschi R**. 2017. New insights into the Heterogeneous ripening in Hass avocado via LC MS/MS proteomics. *Postharvest Biology and Technology* 132: 51-61. Q1.

33. Campos D, Mescua L, Aguilar-Gálvez A, Chirinos, **Pedreschi R**. 2017. Effect of fructooligosaccharide purification technique using activated charcoal or ion exchange fixed bed column on recovery, purity and contents of fructose, glucose and sucrose. *International Journal of Food Science and Technology* 52: 2637-2646. Q2.

34. Fuentealba C, Hernandez I, Saa S, Toledo L, Burdiles P, Chirinos R, Campos D, Brown P, **Pedreschi R**. 2017. Color and in vitro quality attributes of walnuts from different growing conditions correlate with key precursors of primary and secondary metabolism. *Food Chemistry* 232: 664-672. Q1.

35. Chirinos R, Aquino M, **Pedreschi R**, Campos D. 2017. Optimized methodology for alkaline and enzyme assisted extraction of protein from sachu inchi (*Plukenetia volubilis*) kernel cake. *Journal of Food Process Engineering* 40: e12412. Q3.

36. Betalleluz-Pallardel I, Inga M, Mera L, **Pedreschi R**, Campos D, Chirinos R. 2017. Optimization of extraction conditions and thermal properties of protein from the Andean pseudocereal cañihua (*Chenopodium pallidicaule* Aellen). *International Journal of Food Science & Technology* 52: 1026-1034. Q2.

37. Fuentealba C, **Pedreschi R**, Saavedra J. 2016. A statistical approach to assess the heterogeneity of Hass avocados submitted to different postharvest abiotic stresses. *Ciencia e Investigación Agraria* 43: 356-365. Q4.

38. Fuentealba C, Galvez L, Cobos A, Olaeta JA, Defilippi BG, Chirinos R, Campos D, **Pedreschi R**. 2016. Characterization of main primary and secondary metabolites and in vitro antioxidant and antihyperglycemic properties of the mesocarp tissue of three biotypes of *Pouteria lucuma*. *Food Chemistry* 190: 403-411. Q1.

39. **Pedreschi R**, Hollak S, Harkema H, Otma E, Robledo P, Westra E, Somhorst D, Ferreyra R, Defilippi BG. 2016. Impact of postharvest ripening strategies on Hass avocado fatty acid profiles. *South African Journal of Botany* 103: 32-35. Q2.

40. Mendieta B, Olaeta JA, **Pedreschi R**, Undurraga P. 2016. Reduction of cold damage during cold storage of Hass avocado by a combined use of pre-conditioning and waxing. *Scientia Horticulturae* 8: 119-124. Q1.

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41. Chirinos R, Necochea O, **Pedreschi R**, Campos D. 2016. Sacha inchi (*Plukenetia volubilis* L.) Shell: an alternative source of phenolic compounds and antioxidants. *International Journal of Food Science and Technology* 51: 986-993. Q2.
42. Campos D, Aguilar-Galvez A, **Pedreschi R**. 2016. Stability of fructooligosaccharides, sugars and color of yacon (*Smallanthus sonchifolius*) roots during blanching and drying. *International Journal of Food Science & Technology* 51: 1177-1185. Q2.
43. Chirinos R, Zorrilla D, Aguilar-Galvez A, **Pedreschi R**, Campos D. 2016. Impact of roasting on fatty acids, tocopherols, phytosterols and phenolic compounds present in *Plukenetia huayllabambana* seed. *Journal of Chemistry*, Article ID 6570935. Q3.
44. Hernández I, Fuentealba C, Olaeta JA, Lurie S, Defilippi B, Campos-Vargas R, **Pedreschi R**. 2016. Factors associated with postharvest ripening heterogeneity of Hass avocados (*Persea americana* Mill). *Fruits* 71: 259-268. Q3.
45. Riquelme J, Olaeta JA, Gálvez L, Undurraga P, Fuentealba C, Osses A, Orellana J, Gallardo J, **Pedreschi R**. 2016. Nutritional and functional characterization of wild and cultivated *Sarcocornia neei* grown in Chile. *Ciencia e Investigación Agraria* 43: 283-293. Q4.

### Proyectos con financiamiento externo últimos 5 años (adjudicado y/o ejecutado)

1. Concurso de apoyo a la cooperación en investigación Chile-Perú, redes de investigación en Biotecnología. “Red de investigación Perú-Chile: compartiendo experiencias y desafíos relacionados a la Biotecnología Vegetal, Industrial & Bioprocesos”  
Financiamiento: Redes PCI-ANID redbio0001  
Rol: Director  
Duración: 2019-2021  
Año de adjudicación: 2019
2. Study of cytokinin applications in early stages of berry development on changes in cell wall metabolism and its effect on the grape firmness in *Vitis vinifera*  
Financiamiento: Fondecyt Regular N°1200139, ANID  
Rol: Co-Investigador  
Duración: 2020-2024  
Año de adjudicación: 2020
3. Formation and mitigation of potentially toxic compounds generated by heat processing starchy and protein matrixes.  
Financiamiento: Fondecyt Regular N°1190080, ANID  
Rol: Co-investigador  
Duración: 2019-2023

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Año de adjudicación: 2019

**4. Metabolic profiling of “Black spot disorder” in stored Hass avocado (Persea americana Mill) fruit**

Financiamiento: Fondecyt Postdoctorado N°3190055, ANID

Rol: Patrocinante

Duración: 2018-2021

Año de adjudicación: 2018

**5. Physiological status at harvest: key to predict postharvest ripening behavior of Chilean Hass avocado.**

Financiamiento: Fondecyt Regular N°1180303, ANID

Rol: Investigador responsable

Duración: 2018-2022

Año de adjudicación: 2018

**6. Entendiendo la complejidad metabólica y nutricional de frutos en poscosecha: una perspectiva integradora desde la biología de sistemas.**

Financiamiento: Concurso de apoyo a la formación de redes internacionales para investigadores en etapa inicial. REDI170422, ANID

Rol: Investigador

Duración: 2017-2019

Año de adjudicación: 2017

**7. Identification of biomarkers associated with mealiness in peach using mQTL and meQTL.**

Financiamiento: Fondecyt Regular N°1160584, ANID

Rol: Co-investigador

Duración: 2016-2020

Año de adjudicación: 2016

**8. Postharvest Systems Biology: hands on integrating omics data into metabolic networks Chile-Belgium-Israel.**

Financiamiento: Apoyo a la Formación de Redes Internacionales entre Centros de Investigación 2015, REDES150030, ANID

Rol: Investigador responsable

Duración: 2016-2017

Año de adjudicación: 2015

**9. Discovery of biomarker candidates linked to table grape berry firmness based on transcriptomic and metabolomics analysis.**

Financiamiento: Fondecyt Regular N° 1150492, ANID

Rol: Co-investigador

Duración: 2015-2019

Año de adjudicación: 2015