

DOCTORADO EN CIENCIAS AGROALIMENTARIAS

**Romina Pedreschi Plasencia**

**Publicaciones (2017- 2021)**

1. Huamán-Alvino, C., Chirinos, R., Gonzales-Parinova, F., **Pedreschi, R.**, Campos, D. 2021. Physicochemical and bioactive compounds at edible ripeness of eleven varieties of avocado (*Persea americana*) cultivated in the Andean Region of Peru. *International Journal of Food Science and Technology*, 56: 5040-5049. Q2.
2. Rojas, B., Suárez, F., Saez-Aguayo, S., Olmedo, P., Zepeda, Delgado-Rioseco, J., Defilippi, B., **Pedreschi, R.**, Meneses, C., Pérez-Donoso, A; Campos-Vargas, R. 2021. Pre-anthesis cytokinin applications increase table grape berries firmness by modulating cell wall polysaccharides. *Plants*, 10: 2642. Q1.
3. Chirinos, R., Campos, D., Martínez, S., Llanos, S., Betallaluz-Pallardel, I., García-Ríos, D., **Pedreschi, R.** 2021. The effect of hydrothermal treatment on metabolite composition of Hass avocado stored in controlled atmosphere. *Plants*, 10: 2427. Q1.
4. Núñez-Lillo, G., Ulloa-Zepeda, L., Pavez, C., Riveros, A., Campos-Vargas, R., **Pedreschi, R.**, Meneses, C. 2021. Unravelling the molecular regulation mechanisms of slow ripening fruit in *Prunus persica*. *Plants*, 10: 2380. Q1.
5. Delgado, N., Olivera, M., Cádiz, F., Bravo, G., Montenegro, I., Madrid, A., Fuentealba, C., **Pedreschi, R.**, Salgado, E., Besoain, X. 2021. Volatile Organic Compounds (VOCs) produced by *Gluconobacter cerinus* and *Hanseniaspora osmophila* displaying control effect against table grape-rot pathogens. *Antibiotics*, 10: 663. Q2.
6. Gálvez-Ranilla, L., Rios-Gonzales, B.A., Ramírez-Pinto, M.F., Fuentealba, C., **Pedreschi, R.**, Shetty, K. 2021. Primary and Phenolic Metabolites Analyses, In Vitro Health-Relevant Bioactivity and Physical Characteristics of Purple Corn (*Zea mays* L.) Grown at Two Andean Geographical Locations. *Metabolites*, 11, 722. Q2.
7. Lindh, V., Uarrota, V., Zulueta, C., Alvaro, J.E., Valdenegro, M., Cuneo, I.F., 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-Basel*, 11: 9. Q1.
8. Olivera, M., Delgado, N., Cádiz, F., Riquelme, N., Montenegro, I., Seeger, M., Bravo, G., Barros, W., **Pedreschi, R.**, Besoain, X. 2021. Diffusible compounds produced by *Hanseniaspora osmophila* and *Gluconobacter cerinus* help to control the causal agents of gray rot and summer bunch rot of table grapes. *Antibiotics*, 10: 664. Q2.

DOCTORADO EN CIENCIAS AGROALIMENTARIAS

9. Ponce, E., Alzola, B., Cáceres, N., Gas, M., Ferreira, C., Vidal, J., Chirinos, R., Campos, D., Rubilar, M., Campos-Vargas, R., **Pedreschi, R.**, Fuentealba, C. 2021. Biochemical and phenotypic characterization of sweet cherry (*Prunus avium* L.) cultivars with induced surface pitting. *Postharvest Biology & Technology*, 175: 111494. Q1.
10. 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*, 40: 100882. Q2.
11. 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.
12. Hernández, I., Uarrota, V., Paredes, D., Fuentealba, C., Defilippi, B.G., 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.
13. 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. Metabolite fruit profile is altered in response to source–sink imbalance and can be used as an early predictor of fruit quality in nectarine. *Frontiers in Plant Science*, 11: 604133. Q1.
14. 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*, 98: 423-433. Q3.
15. Beyer, C., Cuneo, I.F., 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.
16. 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.
17. 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.
18. Chirinos, R., Sánchez-Sandoval, R., **Pedreschi, R.**, Campos, D. 2020. Enzyme-assisted hidrolysates from sacha inchi (*Plukenetia volubilis*) protein with in vitro antioxidant and antihypertensive properties. *Journal of Food Processing and Preservation*, 44: e14969. Q3.

DOCTORADO EN CIENCIAS AGROALIMENTARIAS

19. Chirinos, R., **Pedreschi, R.**, Velásquez-Sánchez, M., Aguilar-Gálvez, A., Campos, D. 2020. In vitro antioxidant and angiotensin-I converting enzyme inhibitory properties of enzymatically hydrolyzed quinoa (*Chenopodium quinoa*) and kiwicha (*Amaranthus caudatus*) proteins. *Cereal Chemistry*, 97: 949-957. Q3.
20. 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.
21. Uarrota, V.G., Hernandez, I., Ponce, E., Vidal, J., Fuentealba, C., Defilippi, B.G., Lindh, V., Zulueta, C., Chirinos, R., Campos, D., **Pedreschi, R.** 2020. Unravelling factors associated with 'blackspot' disorder in stored Hass avocado (*Persea americana* Mill) fruit. *Journal of Horticultural Science & Biotechnology*, 95: 804-815. Q2.
22. 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.
23. 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.
24. 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.
25. 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.
26. 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.
27. 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.
28. **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.

DOCTORADO EN CIENCIAS AGROALIMENTARIAS

29. Galvez Ranilla, L., Huaman-Alvino, C., Flores-Baez, O., Aquino-Mendez, 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. Q3.
30. 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.
31. Campos, D., Aguilar-Galvez, 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.
32. 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.
33. 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.
34. Rodríguez, F., **Pedreschi, R.**, Fuentealba, C., de Kartzow, A., Olaeta, J.A., Alvaro, J.E. 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.
35. Chirinos, R., Ochoa, K., Aguilar-Gálvez, A., Carpentier, S., **Pedreschi, R.**, Campos, D. 2018. Obtaining of peptides with antioxidant and antihypertensive properties from cañihua protein (*Chenopodium pallidicaule* Aellen). *Journal of Cereal Science*, 83: 139-146. Q2.
36. 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.
37. García-Mazcorro, J., **Pedreschi, R.**, Chew, B., Dowd, S.E., Kowas, J.R., 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.

DOCTORADO EN CIENCIAS AGROALIMENTARIAS

38. Pedreschi, F., Saavedra, I., Bunger, A., Zuñiga, A., **Pedreschi, R.**, Chirinos, R., Campos, D., Mariotti, S. 2018. Mitigation of neo-contaminant formation in Chilean bread without affecting its sensory attributes: Effect of phenolic compounds from a tara (*Caesalpinia spinosa*) pod extract. *LWT Food Science & Technology*, 95: 116-122. Q1.
39. 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, ascorbyl palmitate, and citric acid on sachá inchi (*Plukenetia volubilis*) oil. *Journal of Food Process Engineering* 41: e12613. Q3
40. Ahumada-Zamora, J., Fuentealba, C., Olaeta, J.A., Undurraga, P., **Pedreschi, R.**, Shetty, K., Gálvez-Ranilla, L. 2017. Bioactive compounds of loquat (*Eriobotrya japonica* Lindl.) cv. Golden Nugget and in vitro health-relevant functional potential for hyperglycemia management. *Ciencia e Investigación Agraria*, 44: 207-214. Q3.
41. Hernández, I., Fuentealba, C., Olaeta, J.A., 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.
42. Fuentealba, C., Hernández, I., Olaeta, J.A., 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.
43. Campos, D., Mescua, L., Aguilar-Gálvez, A., Chirinos, R., **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.
44. 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.
45. Chirinos, R., Aquino, M., **Pedreschi, R.**, Campos, D. 2017. Optimized methodology for alkaline and enzyme assisted extraction of protein from sachá inchi (*Plukenetia volubilis*) kernel cake. *Journal of Food Process Engineering* 40: e12412. Q3.
46. 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.

## DOCTORADO EN CIENCIAS AGROALIMENTARIAS

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

1. A transcriptomic approach to study the differences in the parameters of root development, canopy and fruit quality of avocado cv. 'Hass' for two rootstocks grown under controlled conditions.  
Financiamiento: Fondecyt -ANID Postdoctorado N°3210011  
Rol: Patrocinante  
Duración: 2021-2024  
Año adjudicación: 2021
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-ANID N°1200139  
Rol: Co-Investigador  
Duración: 2020-2024  
Año de adjudicación: 2020
3. Evaluación del sistema de defensa antioxidante y metabolitos implicados en el daño por frío de la palta (*Persea americana*) Hass para comprender y mitigar este desorden fisiológico.  
Financiamiento: Fondecyt contrato 369-2019, Concytec, Perú  
Rol: Investigador asociado internacional  
Duración: 2019-2022  
Año adjudicación: 2019
4. Red de investigación Perú-Chile: compartiendo experiencias y desafíos relacionados a la Biotecnología Vegetal, Industrial & Bioprocesos Principal.  
Financiamiento: Concurso de apoyo a la cooperación en investigación Chile-Perú, redes de investigación en Biotecnología, ANID, N° REDBIO0001.  
Rol: Investigador responsable  
Duración: 2019-2022  
Año adjudicación: 2019
5. Formation and mitigation of potentially toxic compounds generated by heat processing starchy and protein matrixes.  
Financiamiento: Fondecyt Regular - ANID N°1190080  
Rol: Co-investigador  
Duración: 2019-2023  
Año de adjudicación: 2019
6. Metabolic profiling of “Black spot disorder” in stored Hass avocado (*Persea americana* Mill) fruit  
Financiamiento: Fondecyt Postdoctorado - ANID N°3190055  
Rol: Patrocinante  
Duración: 2019-2022  
Año de adjudicación: 2019

## DOCTORADO EN CIENCIAS AGROALIMENTARIAS

7. Physiological status at harvest: key to predict postharvest ripening behaviour of Chilean Hass avocado.  
Financiamiento: Fondecyt Regular N°1180303, ANID  
Rol: Investigador responsable  
Duración: 2018-2022  
Año de adjudicación: 2018
8. Síntesis de tiocianatos, nitriles, epitionitros y otros con potencial anticancerígeno a partir de los glucosinolatos de mashua (*Tropaeolum tuberosum*) usando bacterias lácticas.  
Financiamiento: Fondecyt E041-2018-01, Concytec, Perú  
Rol: Investigador asociado internacional  
Duración 2018-2021  
Año adjudicación: 2018
9. 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. ANID REDI170422.  
Rol: Investigador  
Duración: 2017-2019  
Año de adjudicación: 2017
10. 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, ANID, REDES150030.  
Rol: Investigador responsable  
Duración: 2016-2017  
Año de adjudicación: 2015
11. Identification of biomarkers associated with mealiness in peach using mQTL and meQTL.  
Financiamiento: Fondecyt Regular – Conicyt, N°1160584  
Rol: Co-Investigador  
Duración: 2016-2020  
Año de adjudicación: 2016
12. Discovery of biomarker candidates linked to table grape berry firmness based on transcriptomic and metabolomics analysis  
Financiamiento: Fondecyt Regular – Conicyt, N°1150492  
Rol: Co-Investigador  
Duración: 2015-2019  
Año de adjudicación: 2015
13. An integrative approach to study ‘Hass’ avocado postharvest ripening heterogeneity  
Financiamiento: Fondecyt Regular – Conicyt, N°1150492

FACULTAD DE  
CIENCIAS AGRONÓMICAS  
Y DE LOS ALIMENTOS



PONTIFICIA  
UNIVERSIDAD  
CATÓLICA DE  
VALPARAÍSO

## DOCTORADO EN CIENCIAS AGROALIMENTARIAS

Rol: Investigador Responsable

Duración: 2014-2017

Año de adjudicación: 2014