

## REFERENCES

- Abdullah, H., Rohaya, M., Latifah, M., Selamat, M., and Underhill, S. (2002). Respiration rate, ethylene production and chlorophyll content of the fruit and crown of pineapple stored at low temperature. *Journal of Tropical Agriculture and Food Science*, 30(1), 99–107.
- Aeny, T. N., Suharjo, R., Ginting, C., Hapsoro, D. W. I., and Niswati, A. (2020). Characterization and host range assessment of *Dickeya zea* associated with pineapple soft rot disease in east Lampung, Indonesia. *Biodiversitas*, 21(2), 587–595. <https://doi.org/10.13057/biodiv/d210221>
- Ahmad, S., Singh, Z., Khan, A. S., and Iqbal, Z. (2013). Pre-harvest application of salicylic acid maintain the rind textural properties and reduce fruit rot and chilling injury of sweet orange during cold storage. *Pakistan Journal of Agricultural Science*, 50(4), 559–569.
- Akram, N. A., Shafiq, F., and Ashraf, M. (2017). Ascorbic acid-a potential oxidant scavenger and its role in plant development and abiotic stress tolerance. *Frontiers in Plant Science*, 8, 613. <https://doi.org/10.3389/fpls.2017.00613>
- Allen, G. J., Chu, S. P., Harrington, C. L., Schumacher, K., Hoffmann, T., Tang, Y. Y., Grill, E., and Schroeder, J. I. (2001). A defined range of guard cell calcium oscillation parameters encodes stomatal movements. *Nature*, 411(6841), 1053–1057. <https://doi.org/10.1038/35082575>
- Aminifard, M. H., Mohammadi, S., and Fatemi, H. (2013). Inhibition of green mould in blood orange (*Citrus sinensis* var. Moro) with salicylic acid treatment. *Archives of Phytopathology and Plant Protection*, 46(6), 695–703. <https://doi.org/10.1080/03235408.2012.749740>
- Artyszak, A. (2018). Effect of silicon fertilization on crop yield quantity and quality— A literature review in Europe. *Plants*, 7(3). <https://doi.org/10.3390/plants7030054>
- Asada, K. (2006). Production and scavenging of reactive oxygen species in chloroplasts and their functions. *Plant Physiology*, 141, 391–396. <https://doi.org/10.1104/pp.106.082040>.

- Asghari, M., and Aghdam, M. S. (2010). Impact of salicylic acid on post-harvest physiology of horticultural crops. *Trends in Food Science and Technology*, 21(10), 502–509. <https://doi.org/10.1016/j.tifs.2010.07.009>
- Bahvya, H. K., Nache Gowda, V. V., Janagatah, S., Sreenivas, K. N., and Prakash, N. B. (2011). Effect of foliar silicic acid and boron acid in Bangalore blue grapes. *5th Int. Conf. on Silicon in Agriculture*, 7–8.
- Bajji, M., Kinet, J. M., and Lutts, S. (2002). Osmotic and ionic effects of NaCl on germination, early seedling growth, and ion content of *Atriplex halimus* (*Chenopodiaceae*). *Canadian Journal of Botany*, 80(3), 297–304. <https://doi.org/10.1139/b02-008>
- Barral, B., Chillet, M., Minier, J., Léchaudel, M., and Schorr-Galindo, S. (2017). Evaluating the response to *Fusarium ananatum* inoculation and antifungal activity of phenolic acids in pineapple. *Fungal Biology*, 121(12), 1045–1053. <https://doi.org/10.1016/j.funbio.2017.09.002>
- Bartholomew, D. P., Malézieux, E., Sanewski, G. M., and Sinclair, E. (2003). Inflorescence and fruit development and yield. In K. G. Bartholomew, D.P., Paull, R.E., and Rohrbach (Ed.), *The Pineapple: Botany, production and uses* (1<sup>st</sup> ed., pp. 167–202). CABI Publishing.
- Bartholomew, D. P., and Sanewski, G. M. (2018). Inflorescence and fruit development and yield. In G. M. Sanewski, D. P. Bartholomew, and R. E. Paull (Eds.), *The pineapple: Botany, production and uses* (2<sup>nd</sup> ed., pp. 223–268). CABI Publishing.
- Baswal, A. K., Dhaliwal, H. S., Singh, Z., Mahajan, B. V. C., and Gill, K. S. (2020). Postharvest biology and technology postharvest application of methyl jasmonate, 1-methylcyclopropene and salicylic acid extends the cold storage life and maintain the quality of ‘Kinnow’ mandarin (*Citrus nobilis* L. X *C. deliciosa* L.) fruit. *Postharvest Biology and Technology*, 161, 111064. <https://doi.org/10.1016/j.postharvbio.2019.111064>

- Benítez, S., Soro, L., Achaerandio, I., and Sepulcre, F. (2014). Combined effect of a low permeable film and edible coatings or calcium dips on the quality of fresh-cut pineapple. *Journal of food process engineering*, 37(2), 91–99. <https://doi.org/10.1111/jfpe.12063>
- Benton-Jones, J. J. (2001). *Laboratory guide for conducting soil tests and plant analysis* (J. J. Benton-Jones (ed.); 1<sup>st</sup> ed.). CRC Press.
- Bhande, S. D., Ravindra, M. R., and Goswami, T. K. (2008). Respiration rate of banana fruit under aerobic conditions at different storage temperatures. *Journal of Food Engineering*, 87(1), 116–123. <https://doi.org/10.1016/j.jfoodeng.2007.11.019>
- Bin Thalip, A. A., Tong P.S., and Casey Ng. (2015). The MD2 “Super Sweet” pineapple (*Ananas comosus*). *Utar Agriculture Science Journal*, 1(4), 14–17.
- Brummell, D. A., and Harpster, M. H. (2001). Cell wall metabolism in fruit softening and quality and its manipulation in transgenic plants. *Plant Molecular Biology*, 47(1–2), 311–339. <https://doi.org/10.1023/A:1010656104304>
- Cakmak, I. (2005). The role of potassium in alleviating detrimental effects of abiotic stresses in plants. *Journal of Plant Nutrition and Soil Science*, 168, 521–530. <https://doi.org/10.1002/jpln.200420485>
- Cano-reinoso, D. M., Soesanto, L., Kharisun, and Wibowo, C. (2021). Review : Fruit collapse and heart rot disease in pineapple: Pathogen characterization, ultrastructure infections of plant and cell mechanism resistance. *Biodiversitas*, 22(5), 2477–2488. <https://doi.org/10.13057/biodiv/d220504>
- Carillo, P., Woo, S. L., Comite, E., El-nakhel, C., Rouphael, Y., Fusco, G. M., Borzacchiello, A., Lanzuise, S., and Vinale, F. (2020). Application of *trichoderma harzianum*, 6-pentyl- $\alpha$ -pyrone and plant biopolymer formulations modulate plant metabolism and fruit quality of plum tomatoes. *Plants*, 9(6), 1–15. <https://doi.org/10.3390/plants9060771>
- Carr, M. K. V. (2012). The water relations and irrigation requirements of pineapple (*Ananas comosus* var. *comosus*): A review. *Experimental Agriculture*, 48(4), 488–501. <https://doi.org/10.1017/S0014479712000385>

- Champa, W. A. H., Gill, M. I. S., Mahajan, B. V. C., and Arora, N. K. (2014). Preharvest salicylic acid treatments to improve quality and postharvest life of table grapes (*Vitis vinifera* L.) cv. Flame Seedless. *Journal of Food Science and Technology*, 52(6), 3607–3616. <https://doi.org/10.1007/s13197-014-1422-7>
- Chen, C. C., and Paull, R. . (2000). Changes in sugar contents and activities of sugar metabolizing enzymes in pineapple fruit flesh during development. *Acta Horticulturae*, 529, 191–195. <https://doi.org/doi:10.17660/ActaHortic.2000.529.23>
- Chen, C. (1999). Effects of fruit temperature, calcium, crown and sugar metabolizing enzymes on the occurrence of pineapple fruit translucency. In *PhD dissertation*. University of Hawaii at Manoa.
- Chen, C. C., and Paull, R. E. (2000). Sugar metabolism and pineapple flesh translucency. *Journal of the American Society for Horticultural Science*, 125(5), 558–562. <https://doi.org/10.21273/jashs.125.5.558>
- Chen, C. C., and Paull, R. E. (2001). Fruit temperature and crown removal on the occurrence of pineapple fruit translucency. *Scientia Horticulturae*, 88(2), 85–95. [https://doi.org/10.1016/S0304-4238\(00\)00201-6](https://doi.org/10.1016/S0304-4238(00)00201-6)
- Chen, N. J., and Paull, R. E. (2017). Production and postharvest handling of low acid hybrid pineapple. *Acta Horticulturae*, 1166, 25–34. <https://doi.org/10.17660/ActaHortic.2017.1166.4>
- Chen, N. J., Paull, R. E., Chen, C. C., and Saradhuldhat, P. (2009). Pineapple production for quality and postharvest handling. *Acta Horticulturae*, 822, 253–260. <https://doi.org/10.17660/ActaHortic.2009.822.31>
- Christ, B., and Hörtensteiner, S. (2014). Mechanism and significance of chlorophyll breakdown. *Journal of Plant Growth Regulation*, 33(1), 4–20. <https://doi.org/10.1007/s00344-013-9392-y>

- Conn, S. J., Gilliam, M., Athman, A., Schreiber, A. W., Baumann, U., Moller, I., Cheng, N. H., Stancombe, M. A., Hirschi, K. D., Webb, A. A. R., Burton, R., Kaiser, B. N., Tyerman, S. D., and Leigh, R. A. (2011). Cell-specific vacuolar calcium storage mediated by CAX1 regulates apoplastic calcium concentration, gas exchange, and plant productivity in *Arabidopsis*. *Plant Cell*, 23(1), 240–257. <https://doi.org/10.1105/tpc.109.072769>
- Conway, W. S. (1988). Inhibition of *penicillium expansum* polygalacturonase activity by increased apple cell wall calcium. *Phytopathology* 78(8), 1052. <https://doi.org/10.1094/phyto-78-1052>
- D'Eeckenbrugge, G. C., and Leal, F. (2003). Morphology, anatomy and taxonomy. In D. P. Bartholomew, R. E. Paull, and K. G. Rohrbach (Eds.), *The pineapple: Botany, production and uses* (1<sup>st</sup> ed., pp. 13–32). CABI Publishing.
- De Freitas, S. T., and Resender Nassur, R. C. M. (2017). Calcium treatments. In S. Pareek (Ed.), *Novel postharvest treatments of fresh produce* (1<sup>st</sup> ed., pp. 52–68). CRC Press.
- De Weert, S., Vermeiren, H., Mulders, I. H. M., Kuiper, I., Hendrickx, N., Bloemberg, G. V., Vanderleyden, J., De Mot, R., and Lugtenberg, B. J. J. (2002). Flagella-driven chemotaxis towards exudate components is an important trait for tomato root colonization by *Pseudomonas fluorescens*. *Molecular Plant-Microbe Interactions*, 15(11), 1173–1180. <https://doi.org/10.1094/MPMI.2002.15.11.1173>
- Demidchik, V., Straltsova, D., Medvedev, S. S., Pozhvanov, G. A., Sokolik, A., and Yurin, V. (2014). Stress-induced electrolyte leakage: The role of K<sup>+</sup>-permeable channels and involvement in programmed cell death and metabolic adjustment. *Journal of Experimental Botany*, 65(5), 1259–1270. <https://doi.org/10.1093/jxb/eru004>
- Ding, P., and Syazwani, S. (2016). Physicochemical quality, antioxidant compounds and activity of MD-2 pineapple fruit at five ripening stages. *International Food Research Journal*, 23(2), 549–555.

- Divya, J., and Belagali, S. L. (2012). Impact of chemical fertilizers on water quality in selected agricultural areas of Mysore district, Karnataka, India. *International Journal of Environmental Sciences*, 2(3), 1449–1458. <https://doi.org/10.6088/ijes.00202030030>
- Fanciullino, A. L., Bidel, L. P. R., and Urban, L. (2014). Carotenoid responses to environmental stimuli: Integrating redox and carbon controls into a fruit model. *Plant, Cell and Environment*, 37(2), 273–289. <https://doi.org/10.1111/pce.12153>
- Farouk, S. (2011). Ascorbic acid and  $\alpha$ -tocopherol minimize salt-induced wheat leaf senescence. *Journal of Stress Physiology and Biochemistry*, 7(3), 58–79.
- Feng, F., Li, M., Ma, F., and Cheng, L. (2014). The effects of bagging and debagging on external fruit quality, metabolites, and the expression of anthocyanin biosynthetic genes in ‘Jonagold’ apple (*Malus domestica* Borkh.). *Scientia Horticulturae*, 165, 123–131. <https://doi.org/10.1016/j.scienta.2013.11.008>
- Ferreira, E. A., Siqueira, H. E., Boas, E. V. V., Hermes, V. S., and Rios, A. de O. (2016). Compostos bioativos e atividade antioxidante de frutos de cultivares de abacaxizeiros. *Revista Brasileira de Fruticultura*, 38(3). <https://doi.org/10.1590/0100-29452016146>
- Fonseca, S. C., Oliveira, F. A. R., and Brecht, J. K. (2002). Modelling respiration rate of fresh fruits and vegetables for modified atmosphere packages: A review. *Journal of Food Engineering*, 52(2), 99–119. [https://doi.org/10.1016/S0260-8774\(01\)00106-6](https://doi.org/10.1016/S0260-8774(01)00106-6)
- Frew, A., Weston, L. A., Reynolds, O. L., and Gurr, G. M. (2018). The role of silicon in plant biology: A paradigm shift in research approach. *Annals of Botany*, 121(7), 1265–1273. <https://doi.org/10.1093/aob/mcy009>
- Gamboa, S. B. (2005). Caracterización vegetativa y productiva del cultivar MD-2 de piña (*Ananas comosus*) bajo las condiciones climáticas de Turrialba. *InterSedes*, 6(11), 27–34.

- Gao, J., Zhang, Y., Li, Z., and Liu, M. (2020). Role of ethylene response factors (ERFs) in fruit ripening. *Food Quality and Safety*, 4(1), 15–20. <https://doi.org/10.1093/fqsafe/fyz042>
- Gao, X., Cox, K. L., and He, P. (2014). Functions of calcium-dependent protein kinases in plant innate immunity. *Plants*, 3(1), 160–176. <https://doi.org/10.3390/plants3010160>
- García-Seco, D., Bonilla, A., Algar, E., García-Villaraco, A., Mañero, J. G., and Ramos-Solano, B. (2013). Enhanced blackberry production using *Pseudomonas fluorescens* as elicitor. *Agronomy for Sustainable Development*, 33(2), 385–392. <https://doi.org/10.1007/s13593-012-0103-z>
- García-Seco, D., Zhang, Y., Gutierrez-Mañero, F. J., Martín, C., and Ramos-Solano, B. (2015). Application of *Pseudomonas fluorescens* to blackberry under field conditions improves fruit quality by modifying flavonoid metabolism. *PLoS ONE*, 10(11), 1–23. <https://doi.org/10.1371/journal.pone.0142639>
- Gerendás, J., and Führs, H. (2013). The significance of magnesium for crop quality. *Plant soil*, 368, 101–128. <https://doi.org/10.1007/s11104-012-1555-2>
- Goñi, M. G., Quirós-Sauceda, A. E., Velderrain-Rodríguez, G. R., Ovando-Martínez, M., Roura, S. I., González-Aguilar, G. A., and Pareek, S. (2017). Salicylic acid treatments. In S. Pareek (Ed.), *Novel postharvest treatments of fresh produce* (1<sup>st</sup> ed., pp. 119–148). CRC Press.
- Hajar, N., Zainal, S., Nadzirah, K. Z., Roha, A. M. S., Atikah, O., and Elida, T. Z. M. T. (2012). Physicochemical properties analysis of three indexes pineapple (*Ananas Comosus*) Peel Extract Variety N36. *APCBEE Procedia*, 4, 115–121. <https://doi.org/10.1016/j.apcbee.2012.11.020>
- Hamarawati, E., Mugiastuti, E., Manan, A., Loekito, S., and Soesanto, L. (2017). Applications of *pseudomnas fluorescens* P60 in controlling basal stem rot (*Sclerotium rolfsii* Sacc.) on dragon fruit seedlings. *Asian Journal of Plant Pathology*, 12(1), 1–6. <https://doi.org/10.3923/ajppaj.2018.1.6>

- Hanumanthaiyah, M. R., Vijendrakumar, R. C., Renuka, D. M., Kumar, K. K., and Santhosha, K. V. (2015). Effect of soil and foliar application of silicon on fruit quality parameters of banana cv . *neypoovan* under hill zone. *Plant archives*, *15*(1), 221–224.
- Hassan, A., Othman, Z., and Siriphanich, J. (2011). Pineapple (*Ananas comosus* L. Merr.). In E. Yahia (Ed.), *Postharvest biology and technology of tropical and subtropical fruits: mangosteen to white sapote* (4<sup>th</sup> ed., pp. 194–218). Woodhead Publishing.
- Hayat, Q., Hayat, S., Irfan, M., and Ahmad, A. (2010). Effect of exogenous salicylic acid under changing environment: A review. *Environmental and Experimental Botany*, *68*(1), 14–25. <https://doi.org/10.1016/j.envexpbot.2009.08.005>
- Hepton, A. (2003). Cultural system. In D. P. Bartholomew, R. E. Paull, and K. G. Rohrbach (Eds.), *The Pineapple: botany, production and uses* (1<sup>st</sup> ed., pp. 109–142). CABI Publishing.
- Hernández-Muñoz, P., Almenar, E., Valle, V. Del, Velez, D., and Gavara, R. (2008). Effect of chitosan coating combined with postharvest calcium treatment on strawberry (*Fragaria × ananassa*) quality during refrigerated storage. *Food Chemistry*, *110*(2), 428–435. <https://doi.org/10.1016/j.foodchem.2008.02.020>
- Hocking, B., Tyerman, S. D., Burton, R. A., and Gilliam, M. (2016). Fruit calcium: transport and physiology. *Frontiers in Plant Science*, *7*, 1–17. <https://doi.org/10.3389/fpls.2016.00569>
- Hong, K., Gong, D., Xu, H., Wang, S., Jia, Z., Chen, J., and Zhang, L. (2014). Effects of salicylic acid and nitric oxide pretreatment on the expression of genes involved in the ethylene signalling pathway and the quality of postharvest mango fruit. *New Zealand Journal of Crop and Horticultural Science*, *42*(3), 205–216. <https://doi.org/10.1080/01140671.2014.892012>
- Hossain, M. F. (2016). World pineapple production: An overview. *African Journal of Food, Agriculture, Nutrition and Development*, *16*(4), 11443–11456. <https://doi.org/10.18697/ajfand.76.15620>



- Hu, H., Lin, X., Chen, D., and Chen, W. (2011). Effect of wax treatment on the quality and postharvest physiology of pineapple fruits. *Acta Horticulturae*, 10(39), 7592–7603. <https://doi.org/10.17660/ActaHortic.2013.975.68>
- Hu, Huigang, Li, X., Dong, C., and Chen, W. (2012). Effects of wax treatment on the physiology and cellular structure of harvested pineapple during cold storage. *Journal of Agricultural and Food Chemistry*, 60(26), 6613–6619. <https://doi.org/10.1021/jf204962z>
- Huber, D. M., and Jones, J. B. (2013). The role of magnesium in plant disease. *Plant and Soil*, 368(1–2), 73–85. <https://doi.org/10.1007/s11104-012-1476-0>
- Hudina, M., and Stampar, F. (2011). Bagging of ‘Concorde’ Pears (*Pyrus communis* L.) Influences Fruit Quality. In E. et. al. Sánchez (Ed.), *XI International Pear Symposium* (pp. 625–630). <https://doi.org/10.17660/ActaHortic.2011.909.75>
- Irfan, M., Hayat, S., Hayat, Q., Afroz, S., and Ahmad, A. (2010). Physiological and biochemical changes in plants under waterlogging. *Protoplasma*, 241(1), 3–17. <https://doi.org/10.1007/s00709-009-0098-8>
- Islam, M. Z., Mele, M. A., Choi, K., and Kang, H. (2018). The effect of silicon and boron foliar application on the quality and shelf life of cherry tomatoes. *Zemdirbyste-Agriculture*, 105(2), 159–164. <https://doi.org/10.13080/z-a.2018.105.020>
- Jarvis, M. C. (2011). Plant cell walls: Supramolecular assemblies. *Food Hydrocolloids*, 25(2), 257–262. <https://doi.org/10.1016/j.foodhyd.2009.09.010>
- Jiang, M. Y., Wang, Z. R., Chen, K. W., Kan, J. Q., Wang, K. T., Zalán, Z. S., Hegyi, F., Takács, K., and Du, M. Y. (2019). Inhibition of postharvest gray mould decay and induction of disease resistance by *Pseudomonas fluorescens* in grapes. *Acta Alimentaria*, 48(3), 288–296. <https://doi.org/10.1556/066.2019.48.3.2>
- Kanai, S., Moghaieb, R. E., El-shemy, H. A., Panigrahi, R., Mohapatra, P. K., Ito, J., Nguyen, N. T., Saneoka, H., and Fujita, K. (2011). Plant Science Potassium deficiency affects water status and photosynthetic rate of the vegetative sink in green house tomato prior to its effects on source activity. *Plant Science*, 180(2), 368–374. <https://doi.org/10.1016/j.plantsci.2010.10.011>

- Katz, O. (2015). Silica phytoliths in angiosperms: Phylogeny and early evolutionary history. *New Phytologist*, 208(3), 642–646. <https://doi.org/10.1111/nph.13559>
- Kleemann, L. (2016). Organic Pineapple Farming in Ghana - A Good Choice for Smallholders? *The Journal of Developing Areas*, 50(3), 109–130. <https://doi.org/10.1353/jda.2016.0096>
- Kongsuwan, A., Suthiluk, P., Theppakorn, T., Srilaong, V., and Setha, S. (2009). Asian Journal of Food and Agro-Industry. *Asian Journal of Food and Agro-Industry, Special Is*, 44–50.
- Laane, H. M. (2018). The effects of foliar sprays with different silicon compounds. *Plants*, 7(2). <https://doi.org/10.3390/plants7020045>
- Laane, Henk Maarten. (2016). The effects of the application of foliar sprays with stabilized silicic acid: An overview of the results from 2003-2014. *Silicon*, 9(6), 803–807. <https://doi.org/10.1007/s12633-016-9466-0>
- Lampugnani, E. R., Khan, G. A., Somssich, M., and Persson, S. (2018). Building a plant cell wall at a glance. *Cell Science at a Glance*, 131, 1–6. <https://doi.org/10.1242/jcs.207373>
- Larkindale, J., and Vierling, E. (2008). Core genome responses involved in acclimation to high temperature. *Plant Physiology*, 146(2), 748–761. <https://doi.org/10.1104/pp.107.112060>
- Li, Y. H., Wu, Y. J., Wu, B., Zou, M. H., Zhang, Z., and Sun, G. M. (2011). Exogenous gibberellic acid increases the fruit weight of “Comte de Paris” pineapple by enlarging flesh cells without negative effects on fruit quality. *Acta Physiologiae Plantarum*, 33(5), 1715–1722. <https://doi.org/10.1007/s11738-010-0708-2>
- Liang, Y., Nikolic, M., Bélanger, R., Gong, H., and Song, H. (2015). *Silicon in agriculture* (Y. Liang, M. Nikolic, R. Bélanger, H. Gong, and H. Song (eds.); 1<sup>st</sup> ed.). Springer. <https://doi.org/10.1007/978-94-017-9978-2>
- Liu, X., and Huang, B. (2014). Heat stress injury in relation to membrane lipid peroxidation in creeping bentgrass. *Crop Science*, 40, 503–510.

- Liu, Y., Zhang, X., and Zhao, Z. (2013). Effects of fruit bagging on anthocyanins, sugars, organic acids, and color properties of “Granny Smith” and “Golden Delicious” during fruit maturation. *European Food Research and Technology*, 236(2), 329–339. <https://doi.org/10.1007/s00217-012-1896-3>
- Loh, S. C., Azrina, A., Chan, S. H., and Khoo, H. E. (2020). Extracts of peel and different parts of pineapple as potent nutraceuticals. *5<sup>th</sup> International Conference on Pharmaceuticals, Nutraceuticals and Cosmetic Science (IPNaCS) Extracts* (July, 2017), 49–52.
- Londers, E., Ceusters, J., Godts, C., De Proft, M. P., and Van De Poel, B. (2011). Pre- and postharvest metabolism of crown leaves of pineapple fruit. *Acta Horticulturae*, 902, 233–238. <https://doi.org/10.17660/ActaHortic.2011.902.23>
- Lorito, M., and Sheridan, L. W. (2015). *Trichoderma*: A Multi-purpose tool for integrated pest management. In B. Lugtenberg (Ed.), *Principles of Plant-Microbe Interactions: Microbes for Sustainable Agriculture* (1<sup>st</sup> ed., pp. 345–353). Springer, Cham. <https://doi.org/10.1007/978-3-319-08575-3>
- Lu, X. H., Sun, D. Q., Mo, Y. W., Xi, J. G., and Sun, G. M. (2010). Effects of post-harvest salicylic acid treatment on fruit quality and anti-oxidant metabolism in pineapple during cold storage. *Journal of Horticultural Science and Biotechnology*, 85(5), 454–458. <https://doi.org/10.1080/14620316.2010.11512697>
- Lu, X., Sun, D., Li, Y., Shi, W., and Sun, G. (2011). Pre- and post-harvest salicylic acid treatments alleviate internal browning and maintain quality of winter pineapple fruit. *Scientia Horticulturae*, 130(1), 97–101. <https://doi.org/10.1016/j.scienta.2011.06.017>
- Lu, X., Sun, D., Wu, Q., Liu, S., Zhang, X., and Sun, G. (2011). Effects of bagging with different paper bags on fruit growth and quality of pineapple. *Journal of Fruit Science*, 28(6), 1086–1089.

- Lu, Xin Hua, Sun, D. Q., Wu, Q. S., Liu, S. H., and Sun, G. M. (2014). Physico-chemical properties, antioxidant activity and mineral contents of pineapple genotypes grown in China. *Molecules*, 19(6), 8518–8532. <https://doi.org/10.3390/molecules19068518>
- Lubis, R., Daryanto, A., Tambunan, M., and Purwati, H. (2014). Technical, allocative and economic efficiency of pineapple production in west java province, indonesia: a dea approach. *IOSR Journal of Agriculture and Veterinary Science*, 7(6), 18–23. <https://doi.org/10.9790/2380-07631823>
- Luengwilai, K., Beckles, D. M., Roessner, U., Dias, D. A., Lui, V., and Siriphanich, J. (2018). Identification of physiological changes and key metabolites coincident with postharvest internal browning of pineapple (*Ananas comosus* L.) fruit. *Postharvest Biology and Technology*, 137, 56–65. <https://doi.org/10.1016/j.postharvbio.2017.11.013>
- Ma, J. F., and Yamaji, N. (2015). A cooperative system of silicon transport in plants. *Trends in Plant Science*, 20(7), 435–442. <https://doi.org/10.1016/j.tplants.2015.04.007>
- Madani, B., Mirshekari, A., Sofo, A., and Tengku Muda Mohamed, M. (2016). Preharvest calcium applications improve postharvest quality of papaya fruits (*Carica papaya* L. cv. Eksotika). *Journal of Plant Nutrition*, 39(10), 1483–1492. <https://doi.org/10.1080/01904167.2016.1143500>
- Majeed, S., Reetika, Z., Javaid, M., Muslima, A. B., and Rupesh, N. (2019). Role of silicon in plant stress tolerance : opportunities to achieve a sustainable cropping system. *3 Biotech*, 9(73), 1–16. <https://doi.org/10.1007/s13205-019-1613-z>
- Malézieux, E., and Bartholomew, D. P. (2003). Plant nutrition. In D. P. Bartholomew and R. E. Paull (Eds.), *The Pineapple: Botany, Production and Uses* (1<sup>st</sup> ed., pp. 143–166). CABI Publishing.

- Mandal, D., Lalremruata, Hazarika, T. K., and Nautiyal, B. P. (2015). Effect of post-harvest treatments on quality and shelf life of pineapple (*Ananas comosus* [L.] Merr. 'Giant Kew') Fruits at Ambient Storage Condition . *International Journal of Bio-Resource and Stress Management*, 6(4), 490. <https://doi.org/10.5958/0976-4038.2015.00072.x>
- Marcelle, R. D. (1995). Mineral nutrition and fruit quality. *Acta Horticulturae*, 383, 219–226.
- Marschner, P. (2012). *Marschner's Mineral Nutrition of Higher Plants* (P. Marschner (ed.); 3<sup>rd</sup> ed.). Academic Press.
- Martínez, J. I., Gómez-Garrido, M., Gómez-López, M. D., Faz, Á., Martínez-Martínez, S., and Acosta, J. A. (2019). *Pseudomonas fluorescens* affects nutrient dynamics in plant-soil system for melon production. *Chilean Journal of Agricultural Research*, 79(2), 223–233. <https://doi.org/10.4067/S0718-58392019000200223>
- Meeteren, U. V., and Aliniaefard, S. (2016). Stomata and postharvest physiology. In S. Pareek (Ed.), *Postharvest ripening physiology of crops* (First, pp. 157–216). CRC Press.
- Meng, X., Han, J., Wang, Q., and Tian, S. (2009). Changes in physiology and quality of peach fruits treated by methyl jasmonate under low temperature stress. *Food Chemistry*, 114(3), 1028–1035. <https://doi.org/10.1016/j.foodchem.2008.09.109>
- Montero-Calderón, M., Rojas-Graü, M. A., and Martín-Belloso, O. (2010). Mechanical and chemical properties of Gold cultivar pineapple flesh (*Ananas comosus*). *European Food Research and Technology*, 230(4), 675–686. <https://doi.org/10.1007/s00217-009-1207-9>
- Morkunas, I., and Ratajczak, L. (2014). The role of sugar signaling in plant defense responses against fungal pathogens. *Acta Physiologiae Plantarum*, 36(7), 1607–1619. <https://doi.org/10.1007/s11738-014-1559-z>
- Muhammad Arslan Ashraf. (2012). Waterlogging stress in plants: A review. *African Journal of Agricultural Research*, 7(13), 1976–1981. <https://doi.org/10.5897/ajarx11.084>

- Nadzirah, K. Z., Zainal, S., Noriham, A., Siti Roha, A. M., and Nadya, H. (2013). Physico-chemical properties of pineapple variety N36 harvested and stored at different maturity stages. *International Food Research Journal*, 20(1), 225–231.
- Naseem, M., Kunz, M., and Dandekar, T. (2017). Plant–pathogen maneuvering over apoplastic sugars. *Trends in Plant Science*, 22(9), 740–743. <https://doi.org/10.1016/j.tplants.2017.07.001>
- Ni, Z., Zhang, Z., Gao, Z., Gu, L., and Huang, L. (2011). Effects of bagging on sugar metabolism and the activity of sugar metabolism related enzymes during fruit development of *Qingzhong loquat*. *African Journal of Biotechnology*, 10(20), 4212–4216. <https://doi.org/10.4314/ajb.v10i20>.
- Noichinda, S., Bodhipadma, K., and Wongs-Aree, C. (2017). Antioxidant potential and their changes during postharvest handling of tropical fruits. In S. Pareek (Ed.), *Novel Postharvest Treatments of Fresh produce* (1<sup>st</sup> ed., pp. 633–662). CRC Press.
- Oosterhuis, D. M., Loka, D. A., Kawakami, E. M., and Pettigrew, W. T. (2014). The physiology of potassium in crop production. *Advances in Agronomy*, 126, 203–233. <https://doi.org/10.1016/B978-0-12-800132-5.00003-1>
- Owolade, S. O., Akinrinola, A. O., Popoola, F. O., Aderibigbe, O. R., Ademoyegun, O. T., and Olabode, I. A. (2017). Study on physico-chemical properties, antioxidant activity and shelf stability of carrot (*Daucus carota*) and pineapple (*Ananas comosus*) juice blend. *International Food Research Journal*, 24(2), 534–540.
- Patrignani, F., Siroli, L., Serrazanetti, D. I., Gardini, F., and Lanciotti, R. (2015). Innovative strategies based on the use of essential oils and their components to improve safety, shelf-life and quality of minimally processed fruits and vegetables. *Trends in Food Science and Technology*, 46(2), 311–319. <https://doi.org/10.1016/j.tifs.2015.03.009>
- Paull, R. ., and Chen, C. C. (2003). Postharvest physiology, handling and storage of pineapple. In D. P. Bartholomew, R. E. Paull, and K. G. Rohrbach (Eds.), *The pineapple: Botany, production and uses* (1<sup>st</sup> ed., pp. 253–279). CABI Publishing.

- Paull, R. E., and Chen, C. C. (2018). Postharvest physiology, handling and storage of pineapple. In G. M. Sanewski, D. P. Bartholomew, and R. E. Paull (Eds.), *The pineapple: Botany, production and uses* (2<sup>nd</sup> ed., pp. 295–323). CABI Publishing.
- Paull, R. E., and Chen, N. J. (2015). Pineapple translucency and chilling injury in new low-acid hybrids. *Acta Horticulturae*, 1088, 61–66. <https://doi.org/10.17660/ActaHortic.2015.1088.5>
- Pauly, M., Gille, S., Liu, L., Mansoori, N., de Souza, A., Schultink, A., and Xiong, G. (2013). Hemicellulose biosynthesis. *Planta*, 238(4), 627–642. <https://doi.org/10.1007/s00425-013-1921-1>
- Peckham, G. D., Kaneshiro, W. S., Luu, V., Berestecky, J. M., and Alvarez, A. M. (2010). Specificity of monoclonal antibodies to strains of *Dickeya* sp. that cause bacterial heart rot of pineapple. *Hybridoma*, 29(5), 383–389. <https://doi.org/10.1089/hyb.2010.0034>
- Pérez-Rodríguez, M. M., Pontin, M., Lipinski, V., Bottini, R., Piccoli, P., and Cohen, A. C. (2020). *Pseudomonas fluorescens* and *Azospirillum brasilense* increase yield and fruit quality of tomato under field conditions. *Journal of Soil Science and Plant Nutrition*, 20(4), 1614–1624. <https://doi.org/10.1007/s42729-020-00233-x>
- Peris-Felipo, F. J., Benavent-Gil, Y., and Hernández-Apaolaza, L. (2020). Silicon beneficial effects on yield, fruit quality and shelf-life of strawberries grown in different culture substrates under different iron status. *Plant Physiology and Biochemistry*, 152, 23–31. <https://doi.org/10.1016/j.plaphy.2020.04.026>
- Pires de Matos, A. (2019). Main pests affecting pineapple plantations and their impact on crop development. *Acta Horticulturae*, 1239, 137–145. <https://doi.org/10.17660/ActaHortic.2019.1239.17>
- Ponce, A., Roura, S. I., and Moreira, M. del R. (2011). Essential oils as biopreservatives: Different methods for the technological application in lettuce leaves. *Journal of Food Science*, 76(1), 34–40. <https://doi.org/10.1111/j.1750-3841.2010.01880.x>

- Prabha, S., Kumari, K., and Deb, P. (2018). Effect of fruit bagging on physico-chemical properties of pineapple cv. Mauritius. *International Journal of Current Microbiology and Applied Sciences*, 7, 4876–4885.
- Prasetyo, J., and Aeny, T. N. (2014). Pineapple fruit collapse: Newly emerging disease of pineapple fruit in lampung, Indonesia. *Jurnal Hama Dan Penyakit Tumbuhan Tropika*, 14(1), 96–99. <https://doi.org/10.23960/j.hppt.11496-99>
- Premier Asia Group. MD2 pineapple. (2019). <http://premierasia.com.my/md2-pineapple.html>/Accessed 28 February 2019.
- Pumisutapon, P., Visser, R. G. F., and de Klerk, G. J. (2012). Moderate abiotic stresses increase rhizome growth and outgrowth of axillary buds in *Alstroemeria* cultured in vitro. *Plant Cell, Tissue and Organ Culture*, 110(3), 395–400. <https://doi.org/10.1007/s11240-012-0160-7>
- Ramos, M. J. M., Monnerat, P. H., Pinho, L. G. D. R., and Carvalho, A. J. C. D. (2010). Sensorial quality of the fruits of ‘Imperial’ pineapple cultivated in macronutrient and boron deficiencies. *Revista Brasileira de Fruticultura*, 32(3), 692–699. <https://doi.org/doi.org/10.1590/S0100-29452010005000106>
- Rivier, N., Sadoc, J. F., and Charvolin, J. (2016). Phyllotaxis: A framework for foam topological evolution. *European Physical Journal E*, 39(1), 1–11. <https://doi.org/10.1140/epje/i2016-16007-8>
- Rohrbach, K. G., and Johnson, M. W. (2003). Pests, diseases and weeds. In D. P. Bartholomew, R. E. Paull, and K. G. Rohrbach (Eds.), *The pineapple: Botany, production and uses* (1<sup>st</sup> ed., pp. 203–251). CABI Publishing.
- Sadak, M.Sh., Badr, N. M., Gaballah, M. S., and Rady, M. M. (2010). Increasing sunflower salt tolerance using nicotinamid and  $\alpha$  -tocopherol. *International Journal of Academic Research*, 2(4), 263–270.
- Sadak, Mervat Sh, and Orabi, S. A. (2015). Improving thermo tolerance of wheat plant by foliar application of citric acid or oxalic acid. *International Journal of ChemTech Research*, 8(1), 333–345.



- Saidi, Y., Finka, A., and Goloubinoff, P. (2011). Minireview heat perception and signalling in plants: A tortuous path to thermotolerance. *Plant Signaling and Behavior*, 5(12), 556–565.
- Saidi, Y., Peter, M., Fink, A., Cicekli, C., Vigh, L., and Goloubinoff, P. (2010). Membrane lipid composition affects plant heat sensing and modulates Ca<sup>2+</sup>-dependent heat shock response. *Plant Signaling and Behavior*, 5(12), 37–41. <https://doi.org/10.4161/psb.5.12.13163>
- Saltveit, M. E. (2016). Respiratory metabolism. In S. Pareek (Ed.), *Postharvest ripening physiology of crops* (1<sup>st</sup> ed., pp. 139–156). CRC Press.
- Saradhulhat, P., and Paull, R. E. (2007). Pineapple organic acid metabolism and accumulation during fruit development. *Scientia Horticulturae*, 112(3), 297–303. <https://doi.org/10.1016/j.scienta.2006.12.031>
- Shafawi, N. A., Azmi, A., Zain, Z. I., Azid, S. A., Abu, M. F., Nasarudin, N. S., Mustaffa, R., Lee Ying, J. C., Isahak, N., and Khairulfuaad, R. (2020). Reducing sunburn incidence in MD2 pineapple using chemical pre-harvest treatment to overcome post-harvest losses in Malaysia. *International Journal of Agriculture, Forestry and Plantation*, 10, 34–37.
- Shamsudin, R., Zulkifli, N. A., and Kamarul Zaman, A. A. (2020). Quality attributes of fresh pineapple-mango juice blend during storage. *International Food Research Journal*, 27(1), 141–149.
- Shamsudin, Rosnah, Daud, W. R. W., Takriff, M. S., and Hassan, O. (2007). Physicochemical properties of the Josapine variety of pineapple fruit. *International Journal of Food Engineering*, 3(5). <https://doi.org/10.2202/1556-3758.1115>
- Sharma, R R, Reddy, S. V. R., and Jhalegar, M. J. (2014). Pre-harvest fruit bagging: a useful approach for plant protection and improved post-harvest fruit quality – a review. *The Journal of Horticultural Science and Biotechnology*, 89(2), 101–113. <https://doi.org/10.1080/14620316.2014.11513055>

- Sharma, Ram Roshan, Pal, R. K., Asrey, R., Sagar, V. R., Dhiman, M. R., and Rana, M. R. (2013). Pre-harvest fruit bagging influences fruit color and quality of apple cv . Delicious. *Agricultural sciences*, 4(9), 443–448.
- Shaul, O. (2002). Magnesium transport and function in plants: The tip of the iceberg. *BioMetals*, 15(3), 309–323. <https://doi.org/10.1023/A:1016091118585>
- Singh, B. P., Anuj Singh, R., Singh, G., & Killadi, B. (2005, December). Response of bagging on maturity, ripening and storage behaviour of 'Winter Guava'. In *I International Guava Symposium 735* (pp. 597-601).
- Singleton, V. L. (1965). Chemical and physical development of the pineapple fruit I. Weight per fruitlet and other physical attributes. *Journal of Food Science*, 30(1), 98–104. <https://doi.org/10.1111/j.1365-2621.1965.tb00270.x>
- Sipes, B., and Pires de Matos, A. (2018). Pests, diseases and weeds. In G. M. Sanewski, D. P. Bartholomew, and R. E. Paull (Eds.), *The pineapple: Botany, production and uses* (2<sup>nd</sup> ed., pp. 269–294). CABI Publishing.
- Siti Roha, A. M., Zainal, S., Noriham, A., and Nadzirah, K. Z. (2013). Determination of sugar content in pineapple waste variety N36. *International Food Research Journal*, 20(4), 1941–1943.
- Soesanto, L., Mugiastuti, E., and Rahayuniati, R. F. (2011). Biochemical characteristic of *Pseudomonas fluorescens* P60. *Journal of Biotechnology and Biodiversity*, 2, 19–26.
- Soesanto, Loekas, Hiban, A., and Suharti, W. S. (2019). Application of Bio P60 and Bio T10 Alone or in Combination Against Stem Rot of Pakcoy. *Journal of Tropical Horticulture*, 2(2), 38. <https://doi.org/10.33089/jthort.v2i2.20>
- Soesanto, Loekas, Mugiastuti, E., and Khoeruriza. (2019). Granular formulation test of *Pseudomonas fluorescens* P60 for controlling bacterial wilt (*Ralstonia solanacearum*) of tomato in planta. *Agrivita*, 41(3), 513–523. <https://doi.org/10.17503/agrivita.v41i3.2318>

- Soesanto, Loekas, Mugiastuti, E., Rahayuniati, R. F., Manan, A., Dewi, R. S., Java, C., and Java, C. (2018). Compatibility test of four *Trichoderma* spp. isolates on several synthetic pesticides. *Agrivita*, 40(3), 481–489. <https://doi.org/doi:http://doi.org/10.17503/agrivita.v40i3.1126>
- Soesanto, Loekas, Solikhah, A. N., Mugiastuti, E., and Suharti, W. S. (2020). Application of *Trichoderma harzianum* T10 liquid formula based on soybean flour against cucumber seedlings damping-off (*Pythium* sp.). *Akta Agrosia*, 23(1), 11–18.
- Song, L., Jiang, Y., and Zhao, H. (2012). Acquired thermotolerance in plants. *Plant Cell, Tissue and Organ Culture*, 111(3), 265–276. <https://doi.org/10.1007/s11240-012-0198-6>
- Sood, M., Kapoor, D., Kumar, V., and Sheteiwiy, M. S. (2020). *Trichoderma* : The “Secrets” of a Multitalented. *Plants*, 9, 762.
- Soteriou, G. A., Kyriacou, M. C., Siomos, A. S., and Gerasopoulos, D. (2014). Evolution of watermelon fruit physicochemical and phytochemical composition during ripening as affected by grafting. *Food Chemistry*, 165, 282–289. <https://doi.org/10.1016/j.foodchem.2014.04.120>
- Srivastava, M. K., and Dwivedi, U. N. (2000). Delayed ripening of banana fruit by salicylic acid. *Plant sciences*, 158, 87–96.
- Stamatakis, A., Papadantonakis, N., Lydakis-Simantiris, N., Kefalas, P., and Savvas, D. (2003). Effects of silicon and salinity on fruit yield and quality of tomato grown hydroponically. *Acta Horticulturae*, 609, 141–147. <https://doi.org/10.17660/ActaHortic.2003.609.18>
- Steingass, C. B., Vollmer, K., Lux, P. E., Dell, C., Carle, R., and Schweiggert, R. M. (2020). HPLC-DAD-APCI-MSn analysis of the genuine carotenoid pattern of pineapple (*Ananas comosus* [L.] Merr.) infructescence. *Food Research International*, 127, 108709. <https://doi.org/10.1016/j.foodres.2019.108709>

- Stirling, G. R., and Pattison, A. B. (2008). Beyond chemical dependency for managing plant-parasitic nematodes: Examples from the banana, pineapple and vegetable industries of tropical and subtropical Australia. *Australasian Plant Pathology*, 37(3), 254–267. <https://doi.org/10.1071/AP08019>
- Sueno, W. S. K., Marrero, G., de Silva, A. S., Sether, D. M., and Alvarez, A. M. (2014). Diversity of *Dickeya* strains collected from pineapple plants and irrigation water in Hawaii. *Plant Disease*, 98(6), 817–824. <https://doi.org/10.1094/PDIS-03-13-0219-RE>
- Sun, G. M. (2011). Pineapple production and research in China. *Acta Horticulturae*, 529, 79–86. <https://doi.org/10.17660/ActaHortic.2011.902.5>
- Sun, X., Han, G., Meng, Z., Lin, L., Sui, N., and Lin, L. (2019). Roles of malic enzymes in plant development and stress responses. *Plant Signaling and Behavior*, 14(10), 1–8. <https://doi.org/10.1080/15592324.2019.1644596>
- Supapvanich, S., and Promyou, S. (2017). Hot water incorporated with salicylic acid dips maintaining physicochemical quality of ‘Holland’ papaya fruit stored at room temperature. *Emirates Journal of Food and Agriculture*, 29(1), 18–24. <https://doi.org/10.9755/ejfa.2016-07-966>
- Syazwani, S., Nurliya, I., and Ding, P. (2013). Storage quality of “MD2” pineapple (*Ananas comosus* L.) fruits. *Acta Horticulturae*, 1012, 897–902. <https://doi.org/10.17660/actahortic.2013.1012.121>
- Tale Ahmad, S., and Haddad, R. (2011). Study of silicon effects on antioxidant enzyme activities and osmotic adjustment of wheat under drought stress. *Czech Journal of Genetics and Plant Breeding*, 47(1), 17–27. <https://doi.org/10.17221/92/2010-cjgpb>
- Tareen, M. J., Abbasi, N. A., and Hafiz, A. I. (2012). Postharvest application of salicylic acid enhanced antioxidant enzyme activity and maintained quality of peach cv. ‘Flordaking’ fruit during storage. *Scientia Horticulturae*, 142, 221–228. <https://doi.org/10.1016/j.scienta.2012.04.027>

- Teixeira, R., Inês, M., Boff, C., and Vidal, C. (2011). Efeito do ensacamento dos frutos no controle de pragas e doenças e na qualidade e maturação de maçãs 'Fuji Suprema'. *Bragantia* 70 (3), 688–695.
- Tridge. Global trading platform of food, energy and metal commodities, empowered by digital technology. (2021). <https://www.tridge.com/intelligences/pineapple/ID/> Accessed 07 July 2021.
- Tucker, G., Yin, X., Zhang, A., Wang, M., Zhu, Q., Liu, X., Xie, X., Chen, K., and Grierson, D. (2017b). Ethylene and fruit softening. *Food Quality and Safety*, 1(4), 253–267. <https://doi.org/10.1093/fqsafe/fyx024>
- Uthairatanakij, A., and Jitareerat, P. (2015). Preharvest calcium effects on internal breakdown and quality of 'Pattavia' pineapple during low temperature storage. *Acta Horticulturae*, 1088, 443–448. <https://doi.org/10.17660/ActaHortic.2015.1088.78>
- Valero, D., Díaz-mula, H. M., Zapata, P. J., Castillo, S., Martínez-romero, D., and Serrano, M. (2011). Postharvest treatments with salicylic acid, acetylsalicylic acid or oxalic acid delayed ripening and enhanced bioactive compounds and antioxidant capacity in sweet cherry. *Journal of Agricultural and Food Chemistry*, 59, 5483–5489.
- Vallarino, J. G., and Osorio, S. (2012). Signaling role of oligogalacturonides derived during cell wall degradation. *Plant Signaling and Behavior*, 7(11), 1–3. <https://doi.org/10.4161/psb.21779>
- Vásquez-Jiménez, J. H., and Bartholomew, D. P. (2018). Plant nutrition. In G. M. Sanewski, D. P. Bartholomew, and R. E. Paull (Eds.), *The pineapple: Botany, production and uses* (2<sup>nd</sup> ed., pp. 175–202). CABI Publishing.
- Veillet, F., Gaillard, C., Coutos-Thévenot, P., and La Camera, S. (2016). Targeting the AtCWIN1 gene to explore the role of invertases in sucrose transport in roots and during *Botrytis cinerea* infection. *Frontiers in Plant Science*, 7, 1–20. <https://doi.org/10.3389/fpls.2016.01899>

- Vélez-Ramos, A., and Borges, J. (1995). Foliar application of nitrogen, potassium and magnesium, and pineapple yield and quality. *The Journal of Agriculture of the University of Puerto Rico*, 79(3), 111–119. <https://doi.org/doi.org/10.46429/jaupr.v79i3-4.4306>
- Wang, M., Gao, L., Dong, S., Sun, Y., Shen, Q., and Guo, S. (2017). Role of silicon on plant–pathogen interactions. *Frontiers in Plant Science*, 8, 1–14. <https://doi.org/10.3389/fpls.2017.00701>
- Wang, M., Zheng, Q., Shen, Q., and Guo, S. (2013). The critical role of potassium in plant stress response. *International Journal of Molecular Sciences*, 14, 7370–7390. <https://doi.org/10.3390/ijms14047370>
- Wang, S., Duan, Q., Lei, J., and Yu, D. Y. W. (2020). Slime-inspired polyacrylic acid-borax crosslinked binder for high-capacity bulk silicon anodes in lithium-ion batteries. *Journal of Power Sources*, 468, 228365. <https://doi.org/10.1016/j.jpowsour.2020.228365>
- Waraich, E. A., Ahmad, R., Saifullah, Ashraf, M. Y., and Ehsanullah. (2011). Role of mineral nutrition in alleviation of drought stress in plants. *Australian Journal of Crop Science*, 5(6), 764–777.
- Webb, A. A. R., Larman, M. G., Montgomery, L. T., Taylor, J. E., and Hetherington, A. M. (2001). The role of calcium in ABA-induced gene expression and stomatal movements. *Plant Journal*, 26(3), 351–362. <https://doi.org/10.1046/j.1365-313X.2001.01032.x>
- Weerahewa, H. L. D., and Wicramasekara, I. (2020). Preharvest application of silicon reduces internal browning development of pineapple (*Ananas comosus* ‘Mauritius’) during cold storage: A novel approach. *Acta Horticulturae*, 1278, 39–44. <https://doi.org/10.17660/ActaHortic.2020.1278.6>
- Wei, C., Ma, Z., Liu, Y., Qiao, J., and Sun, G. (2018). Effect of boron on fruit quality in pineapple. *International Conference on Biotechnology and Bioengineering (ICBB-2017)*, 020006, 1–7. <https://doi.org/10.1063/1.5034258>

- Wiranthi, P. E., and Mubarak, F. (2017). Competitiveness and the factors affecting export of the Indonesia canned pineapple in the world and the destination countries. *KnE Life Sciences*, 2(6), 339. <https://doi.org/10.18502/kls.v2i6.1056>
- Wu, H. C., and Jinn, T. L. (2010). Heat shock-triggered  $\text{Ca}^{2+}$  mobilization accompanied by pectin methylesterase activity and cytosolic  $\text{Ca}^{2+}$  oscillation are crucial for plant thermotolerance. *Plant Signaling and Behavior*, 5(10), 1252–1256. <https://doi.org/10.4161/psb.5.10.12607>
- Yamada, K., Saijo, Y., Nakagami, H., and Takano, Y. (2016). Regulation of sugar transporter activity for antibacterial defense in Arabidopsis. *Science*, 354(6318), 1427–1430. <https://doi.org/10.1126/science.aah5692>
- Yang, C., Chen, T., Shen, B., Sun, S., Song, H., Chen, D., and Xi, W. (2019). Citric acid treatment reduces decay and maintains the postharvest quality of peach (*Prunus persica* L.) fruit. *Food Science and Nutrition*, 7(11), 3635–3643. <https://doi.org/10.1002/fsn3.1219>
- Yang, W. H., Zhu, X. C., Bu, J. H., Hu, G. B., Wang, H. C., and Huang, X. M. (2009). Effects of bagging on fruit development and quality in cross-winter off-season longan. *Scientia Horticulturae*, 120(2), 194–200. <https://doi.org/10.1016/j.scienta.2008.10.009>
- Žemlička, L., Fodran, P., Kolek, E., and Prónayová, N. (2013). Analysis of natural aroma and flavor of MD2 pineapple variety (*Ananas comosus* [L.] Merr.). *Acta Chimica Slovaca*, 6(1), 123–128. <https://doi.org/10.2478/acs-2013-0019>
- Zhang, N., Wang, D., Liu, Y., Li, S., Shen, Q., and Zhang, R. (2014). Effects of different plant root exudates and their organic acid components on chemotaxis, biofilm formation and colonization by beneficial rhizosphere-associated bacterial strains. *Plant and Soil*, 374(1–2), 689–700. <https://doi.org/10.1007/s11104-013-1915-6>
- Zhang, Y., Chen, K., Zhang, S., and Ferguson, I. (2003). The role of salicylic acid in postharvest ripening of kiwifruit. *Postharvest Biology and Technology*, 28(1), 67–74. [https://doi.org/10.1016/S0925-5214\(02\)00172-2](https://doi.org/10.1016/S0925-5214(02)00172-2)

- Zhou, H. W., Lurie, S., Lers, A., Khatchitski, A., Sonego, L., and Ben Arie, R. (2000). Delayed storage and controlled atmosphere storage of nectarines: Two strategies to prevent woolliness. *Postharvest Biology and Technology*, 18(2), 133–141. [https://doi.org/10.1016/S0925-5214\(99\)00072-1](https://doi.org/10.1016/S0925-5214(99)00072-1)
- Zuraida, A. R., H, N. S. A., Harteeni, A., Roowi, S., Z, C. R. C. M., and Sreeramanan, S. (2011). Full Length Research Paper A novel approach for rapid micropropagation of maspine pineapple (*Ananas comosus* L.) shoots using liquid shake culture system. *African Journal of Biotechnology*, 10(19), 3859–3866. <https://doi.org/10.5897/AJB10.1349>

