



DAFTAR PUSTAKA

- Adams-Phillips, L., C. Barry & J. Giovannoni. 2004. Signal transduction systems regulating fruit ripening. *Trends in Plant Science.* 9: 331–338. DOI: <https://doi.org/10.1016/j.tplants.2004.05.004>
- Adejo, G.O., F.A. Agbali & O.S. Otokpa. 2015. Antioxidant, total lycopene, ascorbic acid and microbial load estimation in powdered tomato varieties sold in Dutsin-Ma market. *Open Access Library Journal.* 2: e1768. DOI: <https://doi.org/10.4236/oalib.1101768>
- Adeyemi, M.M., M.H. Bawa & B. Muktar. 2018. Evaluation of the effect of calcium carbide on induce ripening of banana, pawpaw and mango cultivated within Kaduna Metropolis, Nigeria. *Journal of Chemical Society of Nigeria.* 43(2): 108–118.
- Akter, N., A.K.O. Huq, S. Akter, Md. Jahangir Alam, Md. Majharul Islam, Md. Jabbar Hossain & N.T. Urmi. 2019. Comparative assessment of natural and artificially ripened tomatoes and effects on storage life. *International Journal of Nutrition and Food Sciences.* 8(4): 59–62. DOI: <https://doi.org/10.11648/j.ijnfs.20190804.11>
- Alexander, L. & D. Grierson. 2002. Ethylene biosynthesis and action in tomato: a model for climacteric fruit ripening. *Journal of Experimental Botany.* 53(377): 2039–2055. DOI: <https://doi.org/10.1093/jxb/erf072>
- Anam, M.F. 2011. Pengaruh cara dan lama pemeraman terhadap kadar gula reduksi, kadar air, kandungan vitamin A dan tekstur pada buah pisang raja nangka (*Musa paradisiaca L.*). Skripsi. Universitas Islam Negeri (UIN) Maulana Malik Ibrahim, Malang, Indonesia.
- Andhi, W.A., T.C., A. Purwantoro & P. Yudono. 2012. Studi aspek fisiologi dan biokimia perkecambahan benih jagung (*Zea mays L.*) pada umur penyimpanan benih yang berbeda. *Vegetalika.* 3(1). DOI: <https://doi.org/10.22146/VEG.1362>
- Asif, M. 2012. Physico-chemical properties and toxic effect of fruit-ripening agent calcium carbide. *Annals of Tropical Medicine and Public Health.* 5(3): 150–156. DOI: <https://doi.org/10.4103/1755-6783.98602>
- Association of Official Agricultural Chemists (AOAC). 1990. Official methods of analysis of the association of official analytical chemists 15th Edition: volume 1. Washington D.C., Amerika Serikat. 771 halaman.
- Astiti, N.P.A. & M.R. Defiani. 2013. Petunjuk praktikum: fisiologi tumbuhan. Universitas Udayana, Denpasar, Indonesia. 21 halaman.
- Balai Penelitian Tanah (Balittanah). 2009. Analisis kimia tanah, tanaman, air dan pupuk. 234 halaman.
- Balai Pengkajian Teknologi Pertanian Kalimantan Selatan (BPTP Kalsel). 2010. Teknologi budidaya tomat. 25 halaman.
- Barrett, D.M., J.C. Beaulieu & R. Shewfelt. 2010. Color, flavor, texture, and nutritional quality of fresh-cut fruits and vegetables: desirable levels,



instrumental and sensory measurement, and the effects of processing. Critical Reviews in Food Science and Nutrition. 50: 369–389. DOI: <https://doi.org/10.1080/10408391003626322>

Barry, C.S., M.I. Llop-Tous & D. Grierson. 2000. The regulation of 1-aminocyclopropane-1-carboxylic acid synthase gene expression during the transition from system-1 to system-2 ethylene synthesis in tomato. Plant Physiology. 123: 979–986. DOI: <https://doi.org/10.1104/pp.123.3.979>

Barry, C.S., R.P. McQuinn, A.J. Thompson, G.B. Seymour, D. Grierson & J.J. Giovannoni. 2005. Ethylene insensitivity conferred by the green-ripe and never-ripe 2 ripening mutants of tomato. Plant Physiology. 138: 267–275. DOI: <https://doi.org/10.1104/pp.104.057745>

Barry, C.S. & J.J. Giovannoni. 2007. Ethylene and fruit ripening. Journal of Plant Growth Regulation. 26: 143–159. DOI: <https://doi.org/10.1007/s00344-007-9002-y>

Batu, A. 2004. Determination of acceptable firmness and colour values of tomatoes. Journal of Food Engineering. 61(3): 471–475. DOI: [https://doi.org/10.1016/S0260-8774\(03\)00141-9](https://doi.org/10.1016/S0260-8774(03)00141-9)

Beckles, D.M. 2012. Factors affecting the postharvest soluble solids and sugar content of tomato (*Solanum lycopersicum L.*) fruit. Postharvest Biology and Technology. 63(1): 129–140. DOI: <https://doi.org/10.1016/j.postharvbio.2011.05.016>

Ben-Yehoshua, S., B. Shapiro, Z.E. Chen & S. Lurie. 1983. Mode of action of plastic film in extending life of lemon and bell pepper fruits by alleviation of water stress. Plant Physiology. 73(1): 87–93. DOI: <https://doi.org/10.1104/pp.73.1.87>

Bertin, N. & M. Génard. 2018. Tomato quality as influenced by preharvest factors. Scientia Horticulturae. 233: 264–276. DOI: <https://doi.org/10.1016/j.scienta.2018.01.056>

Bhatla, S.C. & M.A. Lal. 2018. Plant physiology, development and metabolism. Springer. 1251 halaman.

Bleecker, A.B. & H. Kende. 2000. Ethylene: a gaseous signal molecule in plants. Annual Review of Cell and Developmental Biology. 16: 1–18. DOI: <https://doi.org/10.1146/annurev.cellbio.16.1.1>

Blume, B. & D. Grierson. 1997. Expression of ACC oxidase promoter-GUS fusions in tomato and *Nicotiana plumbaginifolia* regulated by developmental and environmental stimuli. The Plant Journal. 12: 731–746. DOI: <https://doi.org/10.1046/j.1365-313x.1997.12040731.x>

Brinson, K., P.M. Dey, M.A. John & J.B. Pridham. 1988. Post-harvest changes in *Mangifera indica* mesocarp walls and cytoplasmic polysaccharides. Phytochemistry. 27: 719–723. DOI: [https://doi.org/10.1016/0031-9422\(88\)84082-2](https://doi.org/10.1016/0031-9422(88)84082-2)

Brummell, D.A. 2006. Primary cell wall metabolism during fruit ripening*. New Zealand Journal of Forestry Science. 36(1): 99–111.



- Burdon, J. & C. Clark. 2001. Effect of postharvest water loss on 'Hayward' kiwifruit water status. Postharvest Biology and Technology. 22: 215–225. DOI: [https://doi.org/10.1016/S0925-5214\(01\)00095-3](https://doi.org/10.1016/S0925-5214(01)00095-3)
- Burg, S.P. & E.A. Burg. 1962. Role of ethylene fruit ripening. Plant Physiology. 37(2): 179–189. DOI: <https://doi.org/10.1104/pp.37.2.179>
- Cantu, D., A.R. Vicente, L.C. Greve, F.M. Dewey, A.B. Bennett, J.M. Labavitch & A.L.T. Powell. 2008. The intersection between cell wall disassembly ripening, and fruit susceptibility to *Botrytis cinerea*. Proceedings of the National Academy of Sciences of the United States of America. 105(3): 859–864. DOI: <https://doi.org/10.1073/pnas.0709813105>
- Chang, C. & R. Stadler. 2001. Ethylene hormone receptor action in arabidopsis. BioEssays. 23: 619–627. DOI: <https://doi.org/10.1002/bies.1087>
- Chan, Z., Q. Wang, X. Xu, X. Meng, G. Qin, B. Li & S. Tian. 2008. Functions of defense-related proteins and dehydrogenases in resistance response induced by salicylic acid in sweet cherry fruit at different maturity stages. Proteomics. 8(22): 4791–4807. DOI: <https://doi.org/10.1002/pmic.200701155>
- Chattopadhyay, T., P. Hazra, S. Akhtar, D. Maurya, A. Mukherjee & S. Roy. 2021. Skin colour, carotenogenesis and chlorophyll degradation mutant alleles: genetic orchestration behind the fruit colour variation in tomato. Plant Cell Reports. 40: 767–782. DOI: <https://doi.org/10.1007/s00299-020-02650-9>
- Chemistry Tutorials. 2021. Tersedia di: <https://chemtutorial.wordpress.com/tag/ethylene/> (Diakses 25 November 2021).
- Derouet, D., L. Cauret & J-C. Brosse. 2003. Synthesis of 1,4-polyisoprene support of 2-chloroethylphosphonic acid (ethephon) a simulating compound for the latex production by the *Hevea brasiliensis*. European Polymer Journal. 39: 671–686. DOI: [https://doi.org/10.1016/S0014-3057\(02\)00300-2](https://doi.org/10.1016/S0014-3057(02)00300-2)
- Devi, U.R., A. Begum & N. Yeasmin. 2019. Evaluation of the effect of ethephon in postharvest tomato (*Lycopersicon esculentum*). Asian Food Science Journal. 7(3): 1–8. DOI: <https://doi.org/10.9734/afsj/2019/v7i329971>
- Dhall, R.K. & P. Singh. 2013. Effect of ethephon and ethylene gas on ripening and quality of tomato (*Solanum Lycopersicum L.*) during cold storage. Journal of Nutrition & Food Sciences. 3(6). DOI: <https://doi.org/10.4172/2155-9600.1000244>
- Dhall, R.K. & P. Singh. 2016. Postharvest ripening and quality of tomato (*Solanum lycopersicum L.*) during cold storage. Vegetable Science. 43(1): 50–57.
- Díaz-Pérez, J.C. 2019. Transpiration. In: Yahia, E.M. & A. Carrillo-López, Postharvest physiology and biochemistry of fruits and vegetables. Elsevier Inc. Amsterdam, Belanda. 157–173 halaman.
- Food and Agriculture Organization Corporate Statistical Database (FAOSTAT). 2022. Tersedia di: <http://www.fao.org/faostat/en/> (diakses pada 1 Maret 2022).



- Gawęda, M., E. Jędrzejczyk, B. Skowera, R. Jędrzejczyk & K. Szymczyk. 2016. The effect of application of ethephon to processing tomato plants on the chemical composition of fruits. *Notulae Botanicae Horti Agrobotanici Cluj-Napoca*. 44(2): 484–490. DOI: <https://doi.org/10.15835/NBHA44210453>
- Giovannoni, J. 2001. Molecular biology of fruit maturation and ripening. *Annual Review of Plant Physiology and Plant Molecular Biology*. 52: 725–749. DOI: <https://doi.org/10.1146/annurev.arplant.52.1.725>
- Giovannoni, J.J. 2007. Fruit ripening mutants yield insights into ripening control. *Current Opinion in Plant Biology*. 10: 283–289. DOI: <https://doi.org/10.1016/j.pbi.2007.04.008>
- Grierson, D. 2013. Ethylene and the control of fruit ripening. In: Seymour, G.B., M. Poole, J.J. Giovannoni & G.A. Tucker, *The molecular biology and biochemistry of fruit ripening*. John Wiley & Sons. Kuala Lumpur, Malaysia. 43–73 halaman.
- Gupta, R. 2017. Artificial ripening of fruits and effects on health. *International Journal of Advanced Technology in Engineering and Science*. 5(1): 58–62.
- Hackett, R.M., C-W. Ho, Z. Lin, H.C.C. Foote, R.G. Fray & D. Grierson. 2000. Antisense inhibition of the NR gene restores normal ripening to the tomato never-ripe mutant, consistent with the ethylene receptor-inhibition model. *Plant Physiology*. 124: 1079–1085. DOI: <https://doi.org/10.1104/pp.124.3.1079>
- Harker, F.R., J.H. Maindonald & P.J. Jackson. 1996. Penetrometer measurement of apple and kiwifruit firmness: operator and instrument differences. *Journal of the American Society for Horticultural Science*. 125(5): 927–936. DOI: <https://doi.org/10.21273/JASHS.121.5.927>
- Hunter, R.S. & R.W. Harold. 1975. *The measurement of appearance second edition*. John Wiley and Sons. New York, Amerika Serikat. 432 halaman.
- Ibrahim, M., M.O.H. Helali, A.K.M.S. Alam, D. Talukder & S. Akhter. 2017. Physiological and biochemical characteristics of different tomato grown in Rajshahi region of Bangladesh. *Bangladesh Journal of Scientific and Industrial Research*. 52(3): 195–200. DOI: <https://doi.org/10.3329/bjsir.v52i3.34155>
- Khairi, A. 2021. Hasil dokumentasi pribadi tanggal 1 Mei 2021 di Dusun Ngipiksari, Desa Hargobinangun, Kecamatan Pakem, Kabupaten Sleman, Provinsi Daerah Istimewa Yogyakarta (DIY), Indonesia.
- Khan, S.A.K.U., Z. Singh, M.M.A. Musa & A.D. Payne. 2016. 1-Hexylcyclopropene in retarding tomato (*Lycopersicon esculentum* Mill.) fruit ripening and its mode of action. *Scientia Horticulturae*. 213: 410–417. DOI: <https://doi.org/10.1016/j.scienta.2016.10.018>
- Kitagawa, M., N. Nakamura, H. Usuda, T. Shiina, H. Ito, J. Yasuda, T. Inakuma, Y. Ishiguro, T. Kasumi & Y. Ito. 2006. Ethylene biosynthesis regulation in tomato fruit from the F1 hybrid of the ripening inhibitor (rin) mutant. *Bioscience, Biotechnology, and Biochemistry*. 70(7): 1769–1772. DOI: <https://doi.org/10.1271/bbb.50611>



- Knapp, J., P. Moureau, W. Schuch & D. Grierson. 1989. Organization and expression of polygalacturonase and other ripening related genes in Ailsa Craig "neverripe" and "ripening inhibitor" tomato mutants. *Plant Molecular Biology*. 12: 105–116. DOI: <https://doi.org/10.1007/BF00017453>
- Kumar, V., M. Irfan, S. Ghosh, N. Chakraborty, S. Chakraborty & A. Datta. 2015. Fruit ripening mutants reveal cell metabolism and redox state during ripening. *Protoplasma*. DOI: <https://doi.org/10.1007/s00709-015-0836-z>
- Lacap, A.T., E.R.V. Bayogan, L.B. Secretaria, C.D.S. Lubaton & D.C. Joyce. 2019. Responses of 'Carabao' mango to various ripening agents. *Philippine Journal of Science*. 148(3): 513–523.
- Larcher, W. 1995. Physiological plant ecology, ecophysiological and stress physiology of functional groups. Springer. Heidelberg, Jerman. 514 halaman.
- Lemaire-Chamley, M., F. Mounet, C. Deborde, M. Maucourt, D. Jacob & A. Moing. 2019. NMR-based tissular and developmental metabolomics of tomato fruit. *Metabolites*. 9(93). DOI: <https://doi.org/10.3390/metabo9050093>
- Lincoln, J.E., A.D. Campbell, J. Oetiker, W.H. Rottmann, P.W. Oeller, N.F. Shen & A. Theologis. 1993. LE-ACS4, a fruit ripening and wound-induced 1-aminocyclopropane-1-carboxylate synthase gene of tomato (*Lycopersicon esculentum*). Expression in *Escherichia coli*, structural characterization, expression characteristics, and phylogenetic analysis. *Journal of Biological Chemistry*. 268: 19422–19430. DOI: [https://doi.org/10.1016/S0021-9258\(19\)36532-9](https://doi.org/10.1016/S0021-9258(19)36532-9)
- Li, L., H. Liu, Y. Peng, S. Li & T. Liu. 2014. Effects of exogenous ethylene on AC and rin tomato fruit. *Advanced Materials Research*. 1033–1034: 677–680. DOI: <https://doi.org/10.4028/www.scientific.net/AMR.1033-1034.677>
- Li, S., B. Zhu, J. Pirrello, C. Xu, B. Zhang, M. Bouzayen, K. Chen & D. Grierson. 2020. Roles of RIN and ethylene in tomato fruit ripening and ripening-associated traits. *New Phytologist*. 226: 460–475. DOI: <https://doi.org/10.1111/nph.16362>
- Macdonald, M.T. 2010. Physiological significance of ethylene in needle abscission of root-detached balsam fir (*Abies balsamea* (L.) Mill). Disertasi (dipublikasikan). Universitas Laval, Quebec, Kanada.
- Maduwanthi, S.D.T. & R.A.U.J. Marapana. 2019. Induced ripening agents and their effect on fruit quality of banana. *International Journal of Food Science*. DOI: <https://doi.org/10.1155/2019/2520179>
- Majidi, H., S. Minaei, M. Almasi & Y. Mostofi. 2011. Total soluble solids, titratable acidity and repining index of tomato in various storage conditions. *Australian Journal of Basic and Applied Sciences*. 5(12): 1723–1726.
- Martel, C. 2010. Characterization of the roles of the RIN and NOR during tomato (*Solanum lycopersicum*) fruit ripening. Disertasi (dipublikasikan). Universitas Cornell, New York, Amerika Serikat.
- McGuire, R.G. 1992. Reporting of objective colour measurements. *HortScience*. 27(12): 1254–1255. DOI: <https://doi.org/10.21273/HORTSCI.27.12.1254>



- Medlicott, A.P., J.M.M. Sigrist, S.B. Reynolds & A.K. Thompson. 1987. Effects of ethylene and acetylene on mango fruit ripening. *Annals of Applied Biology*. 111: 439–444. DOI: <https://doi.org/10.1111/j.1744-7348.1987.tb01472.x>
- Mulyani, E. 2017. Perbandingan hasil penetapan kadar vitamin C pada buah kiwi dengan menggunakan metode iodometri dan spektrofotometri UV-Vis. *Pharmauho*. 3: 14–17.
- Mutton, L.L. 1978. Effect of moisture stress on the ethephon response in tomatoes. *Scientia Horticulturae*. 8: 299–305. DOI: [https://doi.org/10.1016/0304-4238\(78\)90051-1](https://doi.org/10.1016/0304-4238(78)90051-1)
- Nascimento, R.da.C., O.de.O. Freire, L.S. Ribeiro, M.B. Araújo, F.L. Finger, M.A. Soares, C.F. Wilcken, J.C. Zanuncio & W.S. Ribeiro. 2019. Ripening of bananas using *Bowdichia virgilioides* Kunth leaves. *Scientific Reports*. 9: 3548. DOI: <https://doi.org/10.1038/s41598-019-40053-3>
- National Center for Biotechnology Information (NCBI). 2022. Tersedia di: <https://pubchem.ncbi.nlm.nih.gov/> (diakses pada 1 Maret 2022).
- Nura, A., M.A. Dandago & N.R. Wali. 2018. Effects of artificial ripening of banana (*Musa spp*) using calcium carbide on acceptability and nutritional quality. *Journal of Postharvest Technology*. 6(2): 14–20.
- Oetiker, J.H., D.C. Olson, O.Y. Shiu & S.F. Yang. 1997. Differential induction of seven 1-aminocyclopropane-1-carboxylate synthase genes by elicitor in suspension cultures of tomato (*Lycopersicon esculentum*). *Plant Molecular Biology*. 34: 275–286. DOI: <https://doi.org/10.1023/a:1005800511372>
- Oey, I., M. Lille, A.V. Loey & M. Hendrickx. 2008. Effect of high-pressure processing on colour, texture and flavour of fruit-and vegetable-based food products. *Trends in Food Science & Technology*. 19: 320–328. DOI: <https://doi.org/10.1016/j.tifs.2008.04.001>
- Olson, D.C., J.A. White, L. Edelman, R.N. Harkins & H. Kende. 1991. Differential expression of two genes for 1-aminocyclopropane-1-carboxylate synthase in tomato fruits. *Proceedings of the National Academy of Sciences of the United States of America*. 88: 5340–5344. DOI: <https://doi.org/10.1073/pnas.88.12.5340>
- Oms-Oliu, G., M.L.A.T.M. Hertog, B.V. Poel, J. Ampofo-Asiama, A.H. Geeraerd & B.M. Nicolaï. 2011. Metabolic characterization of tomato fruit during preharvest development, ripening, and postharvest shelf-life. *Postharvest Biology and Technology*. 62: 7–16. DOI: <https://doi.org/10.1016/j.postharvbio.2011.04.010>
- Orsi, B. 2018. Variações alélicas que afetam a carotenogênese em tomateiro alteram o amadurecimento e a suscetibilidade dos frutos ao fungo *Botrytis cinerea*. Tesis (dipublikasikan). Universidade de São Paulo, Piracicaba, Brazil.
- Orsi, B., I. Sestari, A.P. Preczenhak, M.A. Tessmer, M.A.da.S. Souza, N.M.A. Hassimotto & R.A. Kluge. 2021. Allelic variations in the tomato carotenoid pathway lead to pleiotropic effects on fruit ripening and nutritional quality.



Postharvest Biology and Technology. 181: 111632. DOI: <https://doi.org/10.1016/j.postharvbio.2021.111632>

Payton, S., R.G. Fray, S. Brown & D. Grierson. 1996. Ethylene receptor expression is regulated during fruit ripening, flower senescence and abscission. Plant Molecular Biology. 31: 1227–1231. DOI: <https://doi.org/10.1007/BF00040839>

Pereira, L., M. Pujol, J. Garcia-Mas & M.A. Phillips. 2017. Non-invasive quantification of ethylene in attached fruit headspace at 1 p.p.b. by gas chromatography-mass spectrometry. The Plant Journal. 91: 172–183. DOI: <https://doi.org/10.1111/tpj.13545>

Polko, J.K. & J.J. Kieber. 2019. 1-Aminocyclopropane 1-carboxylic acid and its emerging role as an ethylene-independent growth regulator. Frontiers in Plant Science. 10: 1602. DOI: <https://doi.org/10.3389/fpls.2019.01602>

Prasetya, O.A., I.M.S. Utama & N.L. Yulianti. 2015. Pengaruh pelapisan emulsi minyak wijen dan minyak sereh terhadap mutu dan masa simpan buah tomat (*Lycopersicon esculentum* Mill). Jurnal BETA. 3(1): 1–10.

Preedy, V.R. & R.R. Watson. 2008. Tomatoes and tomato products: nutritional, medicinal and therapeutic properties. Science Publishers. New Hampshire, Amerika Serikat. 664 halaman.

Pretel, M.T., M. Serrano, A. Amoros, F. Riquelme & F. Romojaro. 1995. Non-involvement of ACC and ACC oxidase activity in pepper fruit ripening. Postharvest Biology and Technology. 5(4): 295–302. DOI: [https://doi.org/10.1016/0925-5214\(94\)00025-N](https://doi.org/10.1016/0925-5214(94)00025-N)

Prudent, M., M. Causse, M. Génard, P. Tripodi, S. Grandillo & N. Bertin. 2009. Genetic and physiological analysis of tomato fruit weight and composition: influence of carbon availability on QTL detection. Journal of Experimental Botany. 60(3): 923–937. DOI: <https://doi.org/10.1093/jxb/ern338>

Prusky, D. 1996. Pathogen quiescence in postharvest disease. Annual Review of Phytopathology. 34: 413–434. DOI: <https://doi.org/10.1146/annurev.phyto.34.1.413>

Reyes, M.U. & R.E. Paull. 1995. Effect of storage temperature and ethylene treatment on guava (*Psidium guajava* L.) fruit ripening. Postharvest Biology and Technology. 6: 357–365. DOI: [https://doi.org/10.1016/0925-5214\(95\)00007-S](https://doi.org/10.1016/0925-5214(95)00007-S)

Risse, L.A. & W.R. Miller. 1983. Film wrapping and decay of eggplant. Proceedings of the Florida State Horticultural Society. 96: 350–352.

Romadhoni, R.P., T.E. Purbaningtias, Muhamimin & L. Fauzi'ah. 2017. Determination of reduction sugar form banana (*Musa acuminata* balbisiana colla) with different cooking process by UV-Visible Spectrophotometer. Proceeding the 2nd International Seminar on Chemical Education 2017. September, 12–13th 2017.

Ross Koning. 2021. Tersedia di: <http://www1.biologie.uni-hamburg.de/b-online/ibc99/koning/fruitgrowripe.html> (Diakses 25 November 2021).



- Rottman, W.H., G.F. Peter, P.W. Oeller, J.A. Keller, N.F. Shen, B.P. Nagy, L.P. Taylor, A.D. Campbell & A. Theologis. 1991. 1-aminocyclopropane-1-carboxylate synthase in tomato is encoded by a multigene family whose transcription is induced during fruit and floral senescence. *Journal of Molecular Biology*. 222: 937–961. DOI: [https://doi.org/10.1016/0022-2836\(91\)90587-v](https://doi.org/10.1016/0022-2836(91)90587-v)
- Salas-Mendéz, E.de.J., A. Vicente, A.C. Pinheiro, L.F. Ballesteros, P. Silva, R. Rodríguez-García, F.D. Hernández-Castillo, M.de.L.V. Díaz-Jiménez, M.L. Flores-López, J.A. Villarreal-Quintanilla, F.M. Peña-Ramos, D.A. Carrillo-Lomelí & D.J. de Rodríguez. 2019. Application of edible nanolamine coatings with antimicrobial extract of *Flourensia cernua* to extend the shelf-life of tomato (*Solanum lycopersicum* L.) fruit. *Postharvest Biology and Technology*. 150: 19–27. DOI: <https://doi.org/10.1016/j.postharvbio.2018.12.008>
- Saputra, M.N., I.M.S. Utama & N.L. Yulianti. 2019. Efektifitas emulsi lilin lebah sebagai bahan pelapis buah jeruk siam (*Citrus nobilis* Lour var. Microcarpa) terhadap mutu selama penyimpanan. *Jurnal BETA (Biosistem dan Teknik Pertanian)*. 7(2): 263–270. DOI: <https://doi.org/10.24843/JBETA.2019.v07.i02.p06>
- Selvanathan, M., N. Jayabalan, G.K. Saini, M. Supramania & N. Hussin. 2020. Employee productivity in Malaysian private higher educational institutions. *Palarch's Journal of Archaeology of Egypt/Egyptology*. 17(3): 66–79. DOI: <https://doi.org/10.48080/jae.v17i3.50>
- Siddiqui, M.W., J.F. Ayala-Zavala & R.S. Dhua. 2013. Genotypic variation in tomatoes affecting processing and antioxidant attributes. *Critical Reviews in Food Science and Nutrition*. 55(13): 1819–1835. DOI: <https://doi.org/10.1080/10408398.2012.710278>
- Siddiqui, M.W., I. Chakraborty, P. Hazra & J.F. Ayala-Zavala. 2014. Characterization of quality indices on storage of puree of mutant (dg and ogc) and normal tomatoes. *Acta Alimentaria*. 43(3): 426–436. DOI: <https://doi.org/10.1556/AAlim.43.2014.3.9>
- Siddiqui, M.W., I. Chakraborty, F. Homa & R.S. Dhua. 2016. Bioactive compounds and antioxidant capacity in dark green, old gold crimson, ripening inhibitor, and normal tomatoes. *International Journal of Food Properties*. 19(3): 688–699. DOI: <https://doi.org/10.1080/10942912.2015.1038563>
- Singh, S.P. & Z. Singh. 2008. Major flavor components in some commercial cultivars of Japanese plum. *Journal of the American Pomological Society*. 62(4): 185–190.
- Singh, S.P. 2010. Postharvest oxidative stress in plums: mechanism and implications for storage and fruit quality. Disertasi (dipublikasikan). Universitas Curtin, Bentley, Australia.
- Skolik, P., C.L.M. Morais, F.L. Martin & M.R. McAinsh. 2019. Determination of developmental and ripening stages of whole tomato fruit using portable infrared spectroscopy and chemometrics. *BMC Plant Biology*. 19: 236. DOI: <https://doi.org/10.1186/s12870-019-1852-5>



- Solano, R., A. Stepanova, Q. Chao & J.R. Ecker. 1998. Nuclear events in ethylene signaling: a transductional cascade mediated by ETHYLENE-INSENSITIVE3 and ETHYLENE-RESPONSE-FACTOR1. *Genes & Development.* 12(23): 3703–3714. DOI: <https://doi.org/10.1101/gad.12.23.3703>
- Sugandi, W.K., Sudaryanto & T. Herwanto. 2015. Uji kinerja dan pengujian lapangan mesin grading tomat (*Lycopersicum esculentum*) TEP-5. *Jurnal Teknik Pertanian Lampung.* 5(3): 145–156.
- Supriati, Y. & F.D. Siregar. 2015. Bertanam tomat di pot (edisi revisi). Penebar Swadaya. Jakarta, Indonesia. 90 halaman.
- Syukur, M., H.E. Saputra & R. Hermanto. 2015. Bertanam tomat di musim hujan. Penebar Swadaya. Jakarta, Indonesia. 138 halaman.
- Tieman, D.M. & H.J. Klee. 1999. Differential expression of two novel members of the tomato ethylene-receptor family. *Plant Physiology.* 120: 165–172. DOI: <https://doi.org/10.1104/pp.120.1.165>
- Tieman, D.M., J.A. Ciardi, M.G. Taylor & H.J. Klee. 2001. Members of the tomato LeEIL (EIN3-like) gene family are functionally redundant and regulate ethylene responses throughout plant development. *The Plant Journal.* 26: 47–58. DOI: <https://doi.org/10.1046/j.1365-313x.2001.01006.x>
- Tomato Genetics Resource Center (TGRC). 2021. Tersedia di: <https://tgrc.ucdavis.edu/> (diakses pada tanggal 22 Oktober 2021).
- Thompson, A.K. & G.B. Seymour. 1982. Comparative effects of acetylene and ethylene gas on initiation of banana fruit ripening. *Annals of Applied Biology.* 101: 407–410. DOI: <https://doi.org/10.1111/J.1744-7348.1982.TB00837.X>
- Uluisik, S., N.H. Chapman, R. Smith, M. Poole, G. Adams, R.B. Gillis, T.M.D. Besong, J. Sheldon, S. Stiegelmeyer, L. Perez, N. Samsulrizal, D. Wang, I.D. Fisk, N. Yang, C. Baxter, D. Rickett, R. Fray, B. Blanco-Ulate, A.L.T. Powell, S.E. Harding, J. Craigon, J.K.C. Rose, E.A. Fich, L. Sun, D.S. Domozych, P.D. Fraser, G.A. Tucker, D. Grierson & G.B. Seymour. 2016. Genetic improvement of tomato by targeted control of fruit softening. *Nature Biotechnology.* 34(9): 950–952. DOI: <https://doi.org/10.1038/nbt.3602>
- United States Department of Agriculture (USDA). 1975. Color classification requirements in tomatoes. The John Henry Company. Michigan, Amerika Serikat.
- United States Department of Agriculture (USDA). 2020. Tersedia di: <https://plants.usda.gov/core/profile?symbol=SOLY2> (diakses pada 30 Desember 2020).
- United States Department of Agriculture (USDA). 2022. Tersedia di: <https://fdc.nal.usda.gov/index.html> (diakses pada 1 Maret 2022).
- Valente, J., R. Almeida & L. Kooistra. 2019. A comprehensive study of the potential application of flying ethylene-sensitive sensors for ripeness detection in apple orchards. *Sensors.* 19: 372. DOI: <https://doi.org/10.3390/s19020372>



- Vitara, F.N. 2021. Uji daya hasil dan kualitas buah empat belas galur tomat (*Solanum lycopersicum L.*). Skripsi (tidak dipublikasikan). Universitas Gadjah Mada, Yogyakarta, Indonesia.
- vegIMPACT. 2015. Modul pelatihan budidaya cabai merah, tomat, dan mentimun berdasarkan konsepsi pengendalian hama terpadu. 58 halaman.
- Wang, J., G. Chen, Z. Hu & X. Chen. 2007. Cloning and characterization of the EIN2-homology gene LeEIN2 from tomato. DNA Sequencing. 18: 33–38. DOI: <https://doi.org/10.1080/10425170600986738>
- Wang, L., X-L. Zhang, L. Wang, Y. Tian, N. Jia, S. Chen, N-B. Shi, X. Huang, C. Zhou, Y. Yu, Z-Q. Zhang & X-Q. Pang. 2017. Regulation of ethylene-responsive SIWRKYs involved in color change during tomato fruit ripening. Scientific Reports. 7: 16674. DOI: <https://doi.org/10.1038/s41598-017-16851-y>
- Wang, R., G.C. Angenent, G. Seymour & R.A. de Maagd. 2020a. Revisiting the role of master regulators in tomato ripening. Trends in Plant Science. 25(3): 291–301. DOI: <https://doi.org/10.1016/j.tplants.2019.11.005>
- Wang, R., M. Lammers, Y. Tikunov, A.G. Bovy, G.C. Angenent & R.A. de Maagd. 2020b. The rin, nor and Cnr spontaneous mutations inhibit tomato fruit ripening in additive and epistatic manners. Plant Science. 294: 110436. DOI: <https://doi.org/10.1016/j.plantsci.2020.110436>
- Wilkinson, J.Q., M.B. Lanahan, H-C. Yen, J.J. Giovannoni & H.J. Klee. 1995. An ethylene-inducible component of signal transduction encoded by never-ripe. Science. 270: 1807–1809. DOI: <https://doi.org/10.1093/jxb/erg308>
- Wills, R.B.H. & J.B. Golding. 2016. Postharvest: an introduction to the physiology and handling of fruit and vegetables, 6th edition. University of New South Wales (UNSW) Press. Sydney, Australia.
- Xu, F., S. Liu & X. Feng. 2016. Effect of 1-octylcyclopropene on physiological responses and expression of ethylene receptors gene in harvested tomato fruit. Postharvest Biology and Technology. 117: 30–37. DOI: <https://doi.org/10.1016/j.postharvbio.2015.12.016>
- Yahia, E.M., M. Contreras-Padilla & G. Gonzalez-Aguilar. 2001. Ascorbic acid content in relation to ascorbic acid oxidase activity and polyamine content in tomato and bell pepper fruits during development, maturation and senescence. LWT - Food Science and Technology. 34(7): 452–457. DOI: <https://doi.org/10.1006/fstl.2001.0790>
- Yokotani, N., S. Tamura, R. Nakano, A. Inaba & Y. Kubo. 2003. Characterization of a novel tomato EIN3-like gene (LeEIL4). Journal of Experimental Botany. 54: 2775–2776. DOI: <https://doi.org/10.1093/jxb/erg308>
- Zaharah, S.S. & Z. Singh. 2011. Postharvest nitric oxide fumigation alleviates chilling injury, delays fruit ripening and maintains quality in cold-stored 'Kensington Pride' mango. Postharvest Biology and Technology. 60(3): 202–210. DOI: <https://doi.org/10.1016/j.postharvbio.2011.01.011>
- Zhou, D., P. Kalaitzis, A.K. Mattoo & M.L. Tucker. 1996. The mRNA for an ETR1 homologue in tomato is constitutively expressed in vegetative and



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reproductive tissues. Plant Molecular Biology. 30: 1331–1338. DOI:
<https://doi.org/10.1007/BF00019564>