DAFTAR PUSTAKA

Abad, M., P. Noguera, and S. Bures. 2001. National inventory of organic wastes for use as growing media for ornamental potted plant production: Case study in Spain. Bioresource Technology. 77: 197–200.

Abdullahi, I. I., N. Abdullahi, A. M. Abdu, and A. S. Ibrahim. 2016. Proximate, mineral, and vitamin analysis of fresh and canned tomato. Bioscience Biotechnology Research Asia. 13: 1163–1169. http://doi.org/10.13005/bbra/2147

Abid, M., S. Ali, L. K. Qi, R. Zahoor, Z. Tian, D. Jiang, J. L. Snider, and T. Dai. 2018. Physiological and biochemical changes during drought and recovery periods at tillering and jointing stages in wheat (*Triticum aestivum* L.). Scientific Reports. 8(4615): 1–15. http://doi.org/10.1038/s41598-018-21441-7

Agustiansyah, A., P. B. Timotiwu, E. Pramono, & M. Maryeta. 2021. Pengaruh *priming* pada vigor benih cabai (*Capsicum annuum* L.) yang dikecambahkan pada kondisi cekaman aluminium. Jurnal Penelitian Pertanian Terapan. 21(3): 204–211. http://doi.org/10.25181/jppt.v21i3.2133

Ahmad, I., A.M. Saleem, G. Mustafa, K. Ziaf, I. Afzal and M. Qasim. 2017. Seed halopriming enhances germination performance and seedling vigor of *Gerbera jamesonii* and *Zinnia elegans*. Sarhad Journal of Agriculture. 33(2): 199–205. http://doi.org/10.17582/journal.sja/2017/33.2.199.205

Alam, A., H. Ullah, S. Cha-um, R. Tisarum, & A. Datta. 2021. Effect of seed priming with potassium nitrate on growth, fruit yield, quality and water productivity of cantaloupe under water-deficit stress. Scientia Horticulturae. 288(110354). http://doi.org/10.1016/j.scienta.2021.110354

Ali, M. M., T. Javed, R. P. Mauro, R. Shabbir, I. Afzal, and A. F. Yousef. 2020. Effect of seed priming with potassium nitrate on the performance of tomato. Agriculture. 10(12): 498. http://doi.org/10.3390/agriculture10110498

Allen, R. G., L. S. Pereira, D. Raes, and M. Smith. 1998. Crop Evapotranspiration: Guidelines for computing crop water requirements. FAO Irrigation and Drainage Paper. 56.

Alshami, A. K., A. El-Shafei, A. M. Al-Omran, A. G. Alghamdi, I. Louki, A. Alkhasha. 2023. Responses of tomato crop and water productivity to deficit irrigation strategies and salinity stress in greenhouse. Agronomy. 13(3016). http://doi.org/10.3390/agronomy13123016

Amirahmadi, E., H. R. Asghari, M. N. Esfahani, P. R. Karvansara, and M. Modarresi. 2023. Effects of drought stress on tomato growth, physiology and fruit quality: A review. Scientia Horticulturae. 321(112312).

Ansari, W. A., N. Atri, M. Pandey, A. K. Singh, B. Singh, and S. Pandey. 2019. Influence of drought stress on morphological, physiological and biochemical attributes of plants: A review. Biosciences Biotechnology Research Asia. 16(4): 697–709. http://doi.org/10.13005/bbra/2785

Ashraf, M. and M. R. Foolad. 2005. Presowing seed treatment a shotgun approach to improve germination, plant growth, and crop yield under saline and non-saline conditions. Adv Agron. 88: 223–271. http://doi.org/10.1016/S0065-2113(05)88006-X

Association of Official Seed Analysts (AOSA). 1990. Rules for testing seeds. Journal of Seed technology. 12: 101–112.

Astutik, D., D. Suryaningngndari, dan U. Raranda. 2019. Hubungan pupuk kalium dan kebutuhan air terhadap sifat fisiologis, sistem perakaran dan biomassa tanaman jagung (*Zea mays*). Jurnal Citra Widya Edukasi. 11(1): 67–76.

Ayankojo, I. T., K. T. Morgan, and M. Ozores-Hampton. 2018. Effects of real-time location-specific drip irrigation scheduling on water use, plant growth, nutrient accumulation, and yield of Florida fresh-market tomato. HortScience. 53(9): 1372–1378. http://doi.org/10.21273/HORTSCI13183-18

Ayankojo, I.T., and K. T. Morgan. 2021. Optimizing tomato growth and productivity using nitrogen and irrigation application timing. Agronomy. 11(1968). https://doi.org/10.3390/agronomy11101968

Badan Pusat Statistik (BPS). 2023. Produksi Tanaman Buah-buahan, 2021-2023. https://www.bps.go.id/id/statistics-table/2/NjIjMg==/produksi-tanaman-buah-buahan.html

Bandyopadhyay, K. K., P. Aggarwal, D. Chakraborty, S. Pradhan, R. N. Garg, and R. Singh. 2012. *Practical manual on measurement of soil physical properties*. Division of Agricultural Physics, Indian Agricultural Research Institute, New Delhi, India. p. 62.

Barus, W. A., dan A. Rauf. 2021. *Budidaya padi di tanah salin*. UMSU Press, Sumatera.

Bashar, M. K., K. Akter, K. M. Iftekharuddaula, and M.S. Ali. 2003. Genetics of leaf water potential and its relationship with drught avoidance components in rice (*Oryza sativa* L.). Journal of Biological Science. 3 (9): 760–765. https://doi.org/10.3923/jbs.2003.760.765

Basra, A. S. 2006. Handbook of seed science and technology. CRC Press.

Basra, S. M. A., M. Farooq, R. Tabassam, and N. Ahmad, 2005. Physiological and biochemical aspects of pre-sowing seedtreatments in fine rice (*Oryza sativa* L.). Seed Science &Technology. 33(3): 623–628. https://doi.org/10.15258/sst.2005.33.3.09

Bates, L. S., R. P. A. Waldren, and I. D. Teare. 1973. Rapid determination of free proline for water-stress studies. Plant and Soil. 39(1): 205-207. http://doi.org/10.1007/BF00018060

Bewley, J. D., and M. Black. 1994. *Seeds: Physiology of development and germination* (2nd ed.). Plenum Press.

Bewley, J. D., and M. Black. 2013. *Seeds: Physiology of development and germination* (3rd ed.). Springer Science & Business Media.

Bewley, J. D., K. J. Bradford, H. W. M. Hilhorst, and H. Nonogaki. 2013. *Seeds: Physiology of development, germination and dormancy* (3rd ed.). Springer.

Biswas, S., P. Seal, B. Majumder, and A. K. Biswas. 2023. Efficacy of seed priming strategies for enhancing salinity tolerance in plants: An overview of the progress and achievements. Plant Stress. 9(100186). https://doi.org/10.1016/j.stress.2023.100186

Björn, L. O. 2015. *Photobiology: The science of light and life* (3rd ed.). Springer.

Blum, A. 2011. *Plant breeding for water-limited environments*. Springer, New York.

Boy, R., D. Indradewa, E. T. S. Putra, and B. Kurniasih. 2020. Drought-induced production of reactive oxygen species and antioxidants activity of four local upland rice cultivars in Central Sulawesi, Indonesia. Biodiversitas. 21(6): 2555–2565. https://doi.org/10.13057/biodiv/d210628

Brady, N. C., and R. R. Weil. 2016. The Nature and Properties of Soils (15th ed.). Pearson,UK.

Bruce, W. B., G. O. Edmeades, and T. C Barker. 2002. Molecular and physiological approaches to maize improvement for drought tolerance. Journal of experimental botany. 53(366): 13–25. https://doi.org/10.1093/jexbot/53.366.13

Buckley, T. N. 2017. Modeling stomatal conductance. Plant Physiology. 174: 572–582.

Budak, H., M. Kantar, and K. Y. Kurtoylu. 2013. Drought tolerance in modern and wild wheat. The Scientific World Journal. 548. https://doi.org/10.1155/2013/548246

Cardoso, J., T. R. Silva, A. C. D. S. Abboud, T. Finatto, L. G. Woyann, and T. D. O. Vargas. 2022. Selection of drought-tolerant tomato during the vegetative stage. Colloq Agrar. 18: 42–53. https://doi.org/10.5747/ca.2022.v18.n2.a487

Chaudhary, P., A. Sharma, B. Singh, and A. K. Nagpal. 2018. Bioactivities of phytochemicals present in tomato. Journal of Food Science and Technology. 55: 2833–2849. https://doi.org/10.1007/s13197-018-3221-z

Chaves, M. M., J. Flexas, and C. Pinheiro. 2009. Photosynthesis under drought and salt stress: regulation mechanisms from whole plant to cell. Annals of Botany. 103: 551–560. http://doi.org/10.1093/aob/mcn125

Chen, K. and R. Arora. 2013. Priming memory invokes seed stress-tolerance. Environmental and Experimental Botany. 94: 33–45. https://doi.org/10.1016/j.envexpbot.2012.03.005

Chiwina, K. E., G. Bhattarai, H. Xiong, N. K. Joshi, R. W. Dickson, T. M. Phiri, I. Alatawi, Y. Chen, Z. Stansell, and K. S. Ling. 2024. Evaluation of drought tolerance in USDA tomato germplasm at seedling stage. Agronomy. 14(380). https://doi.org/10.3390/agronomy14020380

Choudhury, A. and S. K. Bordolui. 2023. Concept of seed deterioration: Reason, factors, changes during deterioration and preventive measures to overcome seed degradation. American International Journal of Agricultural Studies. 7(1): 41–56. https://doi.org/10.46545/aijas.v7i1.291

Cleveland, W. S. 1993. *Visualizing data*. Hobart Press.

Comas, L. H., S. R. Becker, V. M. Cruz, P. F. Byrne, and D. A. Dierig. 2013. Root traits contributing to plant productivity under drought. Frontiers in Plant Science. 4: 442. https://doi.org/10.3389/fpls.2013.00442

Coolbear, P., A. Francis, and D. Grierson. 1984. The effect of low temperature pre-sowing treatment on the germination performance and membrane integrity of artificially aged tomato seeds. Journal of Experimental Botany. 35(11): 1609–1617. http://doi.org/10.1093/jxb/35.11.1609

Corbineau, F. 2024. The effects of storage conditions on seed deterioration and ageing: How to improve seed longevity. Seeds. 3(1): 56–75. https://doi.org/10.3390/seeds3010005

Czabator, F. J. 1962. Germination value: An index combining speed and completeness of pine seed germination. Forest Science. 8: 386–396. http://doi.org/10.1093/forestscience/8.4.386

Dafni, A., and D. Firmage. 2000. Pollen viability and longevity: Practical, ecological and evolutionary implications. Plant Systematics and Evolution. 222: 113–132.

Dalil, B. 2014. Response of medicinal plants to seed priming: A review. International Journal of Plant, Animal and Environmental Sciences. 4(2): 741–745.

Darmawan, S., T. Kumagai, M. J. Metzger, H. Noguchi, N. Tanaka, and K. Kuraji. 2014. Effects of climate variability on evapotranspiration and water balance in a tropical rainforest. Hydrological Processes. 28: 2340–2352.

De Vitis, M., F. R. Hay, J. B. Dickie, C. Trivedi, J. Choi, and R. Fiegener. 2020. Seed storage: maintaining seed viability and vigor for restoration use. Restoration Ecology. 28: S249–S255. https://doi.org/10.1111/rec.13174

Demir, I., S. Ermis, G. Okçu, and S. Matthews. 2008. Vigour tests for predicting seedling emergence of cucumber (*Cucumis sativus* L.) seeds under stressful conditions. Seed Science and Technology. 36(3): 583–595.

Dorais, M., D. L. Ehret, and A. P. Papadopoulos. 2001. Tomato fruit quality in relation to greenhouse climate. Horticultural Reviews. 26: 239–319.

Dreyer, I. J. L. Gomez-Porras, and J. Riedelsberger. 2017. The potassium battery: A mobile energy source for transport processes in plant vascular tissues. New Phytologist. 216(4): 1049–1053. https://doi.org/10.1111/nph.14667

Dwidjopuspito, T. 1986. *Soil moisture prediction*. Ph.D. Thesis. Faculty of the Graduate School University of The Philippines at Los Banos, Philippines.

Dwipa, I. and M. Muhsanati. 2018. Effect of different seed water content and storage duration towards seed viability of local genotype brown rice daro merah. JERAMI: Indonesian Journal of Crop Science. 1(1): 09–18. https://doi.org/10.25077/jijcs.1.1.09-18.2018

Elbadrawy, E. and A. Sello. 2016. Evaluation of nutritional value and antioxidant activity of tomato peel extracts. Arabian Journal of Chemistry. 9: 1010–1018. https://doi.org/10.1016/j.arabjc.2011.11.011

Ellis, R. A. and E. H. Roberts. 1981. The quantification of ageing and survival in orthodox seeds. Seed Science & Technology. 9: 373–409.

El-Maarouf-Bouteau, H. 2022. The seed and the metabolism regulation. Biology. 11(2): 168.

El-Sanatawy, A. M., H. A. Ashour, and M. M. Rady. 2023. Improving tomato plant performance under water deficit conditions by exogenous application of growth regulators. Scientia Horticulturae. 311(111785).

El-Sanatawy, A. M., S. M. A. I. Ash-Shormillesy, N. Qabil, M. F. Awad, and E. Mansour. 2021. Seed halo-priming improves seedling vigor, grain yield, and water use efficiency of maize under varying irrigation regimes. Water. 13(15): 2115. https://doi.org/10.3390/w13152115

Esatu, A., H. Seid, K. K. Kalsa, G. Debeli, and K. Oshone. 2023. Effect of priming on seed germination, seedling vigor and yield of bread wheat (*Triticum aestivum* L.) under moisture-stress conditions. Ethiopian Journal of Agricultural Sciences. 33(4): 122–135.

Eshel, A. 1998. On the fractal dimensions of a root system. Plant, Cell & Environment. 21(2): 247–251. https://doi.org/10.1046/j.1365-3040.1998.00252.x

Essington, M. E. 2004. *Soil and water chemistry: An integrative approach*. CRC Press.

Eviati dan Sulaeman. 2009. *Analisis kimia tanah, tanaman, air dan pupuk*. Balai Penelitian Tanah, Badan Penelitian dan Pengembangan Pertanian.

FAO. 2022. *FAO strategy on climate change 2022–2031*. Food and Agriculture Organization of the United Nations, Rome.

FAO. 2025. Seeds. Food and Agriculture Organization, Rome, Italy. https://www.fao.org/seeds/en

FAO. 2025. Tomato. Land & Water, FAO, Rome, Italy. https://www.fao.org/land water/databases-and-software/crop-information/tomato/en/

Fariudin, R., E, Sulistyaningsih., dan S, Waluyo. 2013. Pertumbuhan dan hasil dua kultivar Selada (*Lactuca sativa* L.) dalam akuaponika pada kolam gurami dan kolam nila. Vegetalika. 2(1): 1–16. https://doi.org/10.22146/veg.1619

Farooq, M., A. Wahid, N. S. M. A. Kobayashi, D. B. S. M. A. Fujita, and S. M. Basra. 2009. *Plant drought stress: Effects, mechanisms and management*. In Sustainable agriculture (pp. 153-188). Springer Netherlands, Dordrecht.

Farooq, M., S. M. A. Barsa, B. A. Saleem, M. Nafees, and S. A. Chishti. 2005. Enhancement of tomato seed germination and seedling vigor by osmopriming. Pakistan Journal of Agriculture Science. 42(3–4).

Fatichi, S., A. Paschalis, S. Bonetti, G. Manoli, C. Pappas. 2023. Water use efficiency: A review of spatial and temporal variability (2nd ed). M. J. Goss, M. Oliver. *Encyclopedia of soils in the environment*. Academic Press. pp.527–542.

Fertiasari, R., S. Arditian, S. Yuliani, N. Nurhafiza, dan P. Aryasari. 2023. Perubahan fisiologi buah tomat (*Solanum lycopersicum*) terhadap suhu kamar dan umur simpan yang mempengaruhi mutu. Journal of Food Security and Agroindustry. 1(3): 97–104. http://doi.org/10.58184/jfsa.v1i3.125

Finch-Savage, W. E., and G. W. Bassel. 2016. Seed vigour and crop establishment: Extending performance beyond adaptation. Journal of Experimental Botany. 67(3): 567–591. https://doi.org/10.1093/jxb/erv490

Fitter, A. H., and R. K. M. Hay. 2002. *Environmental physiology of plants* (3rd ed.). Academic Press.

Fitter, A. H., and T. R. Stickland. 1992. Fractal characterization of root system architecture. Functional Ecology. 6(5): 632–635. https://doi.org/10.2307/2389956

Friendly, M. 2002. A brief history of data visualization. In *Handbook of computational statistics* (pp. 1–34). Springer.

Fu, Y. B., Z. Ahmed, and A. Diederichsen. 2015. Towards a better monitoring of seed ageing under ex situ seed conservation. Conserv Physiol. 3(1). https://doi.org/10.1093/conphys/cov026

Fukai, S. and M. Cooper. 1995. Development of drought-resistant cultivars using physiomorphological traits in rice. Field Crops Research 40: 67–86. https://doi.org/10.1016/0378-4290(94)00096-U

Gardner, F. P., R. B. Pearce, and R. L. Mitchell. 1991. *Physiology of crop plant* (Fisiologi Tanaman Budidaya, alih bahasa: D.H. Goenadi). Gadjah Mada University Press, Yogyakarta, Indonesia.

Gedeon, G. S., A. Ioannou, R. Balestrini, V. Fotopoulos, and C. Antonio. 2022. Application of biostimulants in tomato plants (*Solanum lycopersicum*) to enhance plant growth and salt stress tolerance. Plants. 11(3082). https://doi.org/10.3390/plants11223082

Gelcer, E., C. W. Fraisse, L. Zotarelli, D. Perondi, H. A. Malia, C. C. Ecole, and K. W. Migliaccio. 2018. A smart irrigation tool to determine the effects of ENSO on water requirements for tomato production in mozambique. Water. 10(12): 1820. https://doi.org/10.3390/w10121820

Gorantla, L., P. R. Babu, V. B. Lachagari, F. A. Feltus, A. H. Paterson, and A. Reddy. 2007. Functional genomics of drought stress response in rice: Transcriptional profiling of a tolerant and a susceptible genotype. Plant Molecular Biology. 65: 35–53.

Grattan, S. R., and C. M. Grieve. 1998. Salinity–mineral nutrient relations in horticultural crops. Scientia Horticulturae. 78: 127–157.

Hadi, A. S. 2023. Khasiat buah tomat (*Solanum lycopersicum*) berpotensi sebagai obat berbagai jenis penyakit. Journal of Progressive Science and Mathematics. 1(1): 7-15.

Halleck, L. 2023. Grow Lighting: Tiny Tomatoes Indoors. https://lesliehalleck.com/blog/light-tiny-tomatoes-indoors?

Halliwell, B., and J. M. C. Gutteridge. 2015. *Free radicals in biology and medicine* (5th ed.). Oxford University Press.

Hampton, J. G. and D. M. TeKrony. 1995. *Handbook of vigour test methods* (3rd ed.). The International Seed Testing Association.

Hatta, M. 2006. Pengaruh suhu air penyiraman terhadap pertumbuhan bibit cabai (*Capsicum annum* L.). Agrista. 10(3):136–141.

Hay, F. R., S. Rezaei, and J. Buitink. 2022. Seed moisture isotherms, sorption models and longevity. Frontier Plant Science. 13: 891913. http://doi.org/10.3389/fpls.2022.891913

He, Y., J. Wang, J. Yang, P. Bai, J. Feng, Y. Wu, J. Yu, L. Hu, and W. Liao. 2024. Enhancement of tomato fruit quality through moderate water deficit. Foods. 13(22): 3540. http://doi.org/10.3390/foods13223540

Heuvelink, E. 2005. *Tomatoes*. CABI Publishing.

Hillel, D. 2004. Introduction to Environmental Soil Physics. Academic Press, New York, US.

Holland, J. B., N. Carolina, W. E. Nyquist, and W. Lafayette. 2003. *Estimating and interpreting heritability for plant breeding: An update*. John Wiley & Sons, Inc., Hoboken, NJ, USA.

Huang, H., M. Li, C. Chen, S. Wei, and Y. Fang. 2022. Physiological and biochemical responses of tomato under drought stress. Plant Physiology Reports. 27: 305–317.

Huang, J., W. Zhuo, Y. Li, R. Huang, F. Sedano, W. Su, J. Dong, L. Tian, Y. Huang, D. Zhu, and X. Zhang. 2020. Comparison of three remotely sensed drought indices for assessing the impact of drought on winter wheat yield. International Journal of Digital Earth. 13(4): 504–526. https://doi.org/10.1080/17538947.2018.1542040

Idris, I. 2016. Pengaruh kondisi penyimpanan dan berbagai varietas bawang merah lokal sulawesi tengah terhadap viabilitas dan vigor benih. Jurnal Agroqua: Media Informasi Agronomi dan Budidaya Perairan. 14(2): 26–34. https://doi.org/10.34003/271889

International Rules for Seed Testing (ISTA). 2015. *The international seed testing association*. Bassersdorf, Switzerland.

International Seed Testing Association. 2025. Seed quality testing standards & seed health testing. ISTA. https://www.seedtest.org/en/publications/international-rules-seed-testing.html

Jain, N., A. Bhatia, H. Pathak, N. Gupta, D. K. Sharma, and R. Kaushik. 2015. Greenhouse gas emission and global warming. Introduction to Environmental Sciences. 379–411.

Jaleel, C.A., P. Manivannan, A. Wahid, M. Farooq, H.J. Al-Juburi, R. Somasundaram, and R. Panneerselvam. 2009. Drought stress in plants: A review on morphological characteristics and pigments composition. Journal of Agriculture and Biology. 11: 100–105.

Jasmi, J. 2018. Viabilitas dan vigor benih akibat deteriorasi. Jurnal Agrotek Lestari. 3(1): 10–14.

Jia, J., M. Zhao, R. Liu, C. Xue, Z. Xia, B. Hu, and H. Rennenberg. 2024. Drought-mediated oxidative stress and its scavenging differ between citrus hybrids with medium and late fruit maturation. Plant Stress. 14: 100670. https://doi.org/10.1016/j.stress.2024.100670

Jisha, K. C., K. Vijayakumari, and J. T. Puthur. 2013. Seed priming for abiotic stress tolerance: an overview. Acta Physiologiae Plantarum. 35(5): 1381–1396. http://doi.org/10.1007/s11738-012-1186-5

Jones, H. G. 2008. *Plants and microclimate: A quantitative approach to environmental plant physiology* (3rd ed.). Cambridge University Press.

Jumaini dan Astija. 2021. Kandungan vitamin C dari buah tomat pada tingkat kematangan yang berbeda. Jurnal Pendidikan Biologi. 6(2): 92–98. https://doi.org/10.30605/biogenerasi.v6i2.543

Jungs, C. H. and W. W. Wells. 1998. Spontaneous conversion of L-dehydroascorbic acid to L-ascorbic acid and L-erythroascorbic acid. Archives of Biochemistry and Biophysics. 355(1): 9–14. https://doi.org/10.1006/abbi.1998.0713

Jyoti, B. and P. Usha. 2016. Effect of hormo-priming on the physiological parameters of seed quality in tomato. Progressive Horticulture. 48(1): 92–94. https://doi.org/10.5958/2249-5258.2016.00018.X

Jyoti, J. and C. P. Malik. 2013. Seed deterioration: A review. International Journal of Life Sciences Biotechnology and Pharma Research. 2: 374–385. https://doi.org/10.69605

Kamoshita, A., R. Rodriguez, A. Yama auchi, and L. Wade. 2004. Genotypic variation in response of rainfed lowland to prolonged drought and rewatering. Plant Production Science. 7(4): 406–420. https://doi.org/10.1626/pps.7.406

Kaya, M. D., G. Okçu, M. Atak, Y. Cikili, and O. Kolsarici. 2010. Seed treatments to overcome salt and drought stress during germination in sunflower (*Helianthus annuus*). European Journal of Agronomy. 32(2): 94–99. https://doi.org/10.1016/j.eja.2005.08.001

Khan, A.A. 1992. Pre plant physiological seed conditioning. Horticultural Reviews. 13: 131–181. https://doi.org/10.1002/9780470650509.ch4

Kramer, P. J. 1969. *Plant and soil water relationships: A modern synthesis*. McGraw-Hill.

Kujawa, A., J. Kornas, N. Hanrieder, S. González Rodríguez, L. Hristov, A.Fernández Solas, S. Wilbert, M. J. Blanco, L. Berzosa Álvarez, A. Martínez Gallardo, A. Amate González, M. Casas Fernandez, F.J. Palmero Luque, M. L. Godoy, M. d. C. Alonso-García, J. A. Carballo, L. F. Zarzalejo Tirado, C. Cornaro, and R. Pitz-Paal. 2025. Tomato yield under different shading levels in an agrivoltaic greenhouse in Southern Spain. AgriEngineering. 7(6): 178. https://doi.org/10.3390/agriengineering7060178

Kumar, R., A. K. Sarawagi, C. Ramos, S. T. Amarante, A. M. Ismail, and L. J. Wade. 2006. Partitioning of dry matter during drought stress in rainfed lowland rice. Field Crop Research. 8(1). https://doi.org/10.1016/j.fcr.2005.09.015

Kumar, V., D. Ranjan, and K. Verma. 2021. Global climate change: the loop between cause and impact. Global Climate Change. 2021: 187–211. https://doi.org/10.1016/B978-0-12-822928-6.00002-2

Kusrini dan V. T. Aryuni. 2020. Faktor berpengaruh dalam produktivitas tomat di Gurabunga Kota Tidore Kepulauan. Jurnal Geocivic. 3(1): 262–265. https://doi.org/10.33387/GEOCIVIC.V3I1.1871

Kusumayati, N., E. E. Nurlaelih, dan L. Setyobudi. 2015. Tingkat keberhasilan pembentukan buah tiga varietas tanaman tomat (*Lycopersicum esculentum* Mill.) pada lingkungan yang berbeda. Jurnal Produksi Tanaman. 3(8): 683–688. https://doi.org/10.21176/protan.v3i8.250

Labouriau, L. F. G., and E. Agudo. 1987. On the physiology of seed germination in *Salvia hispanica* L. temperature effects. Anais da Academia Brasileira de Ciências. 59: 37–56.

Labouriau, L. G. and M. E. B. Valadares. 1976. On the germination of seeds of *Calotropis procera*. Anais da Academia Brasileira de Ciˆencias. 48.

Lakitan, B. 1997. *Fisiologi tanaman budidaya*. Raja Grafindo Persada.

Lakitan, B. 2012. *Dasar-dasar fisiologi tanaman*. Kencana.

Lambers, H., and R. S. Oliveira. 2019. *Plant physiological ecology* (3rd ed.). Springer Cham.

Lambers, H., F. S. Chapin, and T. L. Pons. 2008. *Plant physiological ecology* (2nd ed.). Springer.

Lamichhane, J. R., M. P. You, V. Laudinot, M. J. Barbetti, and J. N. Aubertot. 2020. Revisiting sustainability of fungicide seed treatments for field crops. Plant Disease. 104(3): 610–623. https://doi.org/10.1094/PDIS-06-19-1157-FE

Lara, T. S., J. M. S. Lira, A. C. Rodrigues, M. Rakocevic, and A. A. Alvarenga. 2014. Potassium nitrate priming affects the activity of nitrate reductase and antioxidant enzymes in tomato germination. Journal of Agricultural Science. 6(2): 72–80. https://doi.org/10.5539/jas.v6n2p72

Laxa, M., M. Liebthal, W. Telman, K. Chibani, and K. J. Dietz. 2019. The role of the plant antioxidant system in drought tolerance. Antioxidants. 8(94). http://doi.org/10.3390/antiox8040094

Levitt, J., 1980. *Responses of plants to environmental stresses: Water, radiation, salt and other stresses* (2nd ed). Academic Press, New York.

Li, M., J. E. Schmidt, D. G. LaHue, P. Lazicki, A. Kent, M. B. Machmuller, K. M. Scow, A. C. M. Gaudin. 2020. Impact of irrigation strategies on tomato root distribution and rhizosphere processes in an organic system. Frontiers in Plant Science. 11(2020). https://doi.org/10.3389/fpls.2020.00360

Liu, J., and Y.-Y. Charng. 2012. Acquired thermotolerance, heat shock factors and heat shock proteins in plants. International Journal of Molecular Sciences. 13: 5428–5444.

Liu, M., G. Zhao, X. Huang, T. Pan, W. Chen, M. Qu, B. Ouyang, M. Yu, and S. Shabala. 2023. Candidate regulators of drought stress in tomato revealed by comparative transcriptomic and proteomic analyses. Frontiers in Plant Science. 14(1282718). https://doi.org/10.3389/fpls.2023.1282718

Liu, Z., S. Bi, J. Meng, T. Liu, P. Li, C. Yu, and X. Peng. 2022. Arbuscular mycorrhizal fungi enhanced rice proline metabolism under low temperature with nitric oxide involvement. Frontiers in Plant Science. 13(962460). https://doi.org/10.3389/fpls.2022.962460

Lutts, S., P. Benincasa, L. Wojtyla, S. Kubala, R. Pace, K. Lechowska, M. Quinet, and M. Garnczarska. 2016. Seed priming: new comprehensive approaches for an old empirical technique, new challenges in seed biology. In: Susana Araújo S, Balestrazzi A (eds) *Basic and translational research driving seed technology*. InTech, Open, Rijeka.

Lynch, J. 1995. Root architecture and plant productivity. Plant Physiology. 109(1): 7–13. http://doi.org/10.1104/pp.109.1.7

MacDonald, M. T., and V. R. Mohan. 2025. Chemical seed priming: Molecules and mechanisms for enhancing plant germination, growth, and stress tolerance. Current Issues in Molecular Biology. 47(3): 177. https://doi.org/10.3390/cimb47030177

Maguire, J. D. 1962. Speed of germination-Aid in selection and evaluation for seedling emergence and vigor. Crop Science. 2: 176–177.

Maguire, J. D. 1962. Speed of germination: Aid in selection and evaluation for seedling emergence and vigor. Crop Science. 2(2): 176–177. http://doi.org/10.2135/cropsci1962.0011183X000200020033x

Mahjabin, S. Bilal, and A. B. Abidi. 2015. Physiological and biochemical changes during seed deterioration: a review. International Journal of Recent Scientific Research. 6(4): 3416–3422.

Mamun, A. A., U. A. Naher, and M. Y. Ali. 2018. Effect of seed priming on seed germination and seedling growth of modern rice (*Oryza sativa* L.) varieties. The Agriculturists. 16(1): 34–43. http://doi.org/10.3329/agric.v16i1.37532

Mandelbrot, B. B. 1983. *The fractal geometry of nature*. W. H. Freeman.

Marcos-Filho, J. 2015. *Seed physiology of cultivated plants*. Abrates, Piracicaba, 660 p.

Mardaus, I. Sari, dan E. Y. Yusuf. 2019. Produksi tanaman tomat (*Solanumlycopersicum* L.) dengan pemberian SP-36 dan dolomit di tanah gambut. Jurnal Agro Indragiri. 4(2): 25–35. https://doi.org/10.32520/jai.v4i2.1271

Marschner, H., 1997. *Mineral nutrition of higher plants* (2nd ed). Stuttgat, Germany.

Marthandan, V., R. Geetha, K. Kumutha, V. G. Renganathan, A. Karthikeyan, and J. Ramalingam. 2020. Seed priming: A feasible strategy to enhance drought tolerance in crop plants. International Journal of Molecular Sciences. 21(21): 1–2. https://doi.org/10.3390/ijms21218258

McDonald, M. B. 1999. Seed deterioration: Physiology, repair and assessment. Seed Science and Technology. 27(1): 177–237.

Mebratu, A. 2022. Potassium nitrate priming effect on the germination of tomato (*Lycopersicum esculentum*. Mill) cvs. *“Mersa” and “Tekeze-1”*. International Journal of Agronomy. 2022(4970107). http://doi.org/10.1155/2022/4970107

Mengel, K., E. A. Kirkby, H. Kosegarten, and T. Appel. 2001. *Plant water relationships*. Springer Nature.

Meriem, S., A. P. Sari, dan P. Pasaribu. 2020. Prolin, asam askorbat, dan kandungan air relatif pada tanaman C3 dan C4 yang tercekam kekeringan. Jurnal Bioma. 2(2): 26–32.

Minelli, S. 2018. *Statistical machine learning: A unified perspective*. CRC Press.

Mittler, G., N. Suzuki, S. Cifti-Yilmaz, and R. Mittler. 2010. Reactive oxygen species homeostatis and signalling during drought and salinity stresses. Plant Cell Environ. 33(4): 453–467. http://doi.org/10.1111/j.1365-3040.2009.02041.x

Mohlisun, Z., N. A. S. Hanifah, and A. Ugap. 2021. Effect of seed priming treatments on seed quality of tomato (*Solanum lycopersicum*). Transactions of the Malaysian Society of Plant Physiology. 28: 81–86.

Monteith, J. L., and M. H. Unsworth. 2013. *Principles of environmental physics* (4th ed.). Academic Press.

Montgomery, D. C. 2017. *Design and analysis of experiments* (9th ed.). John Wiley & Sons.

Myers, R. H., D. C. Montgomery, and C. M. Anderson-Cook. 2016. *Response surface methodology: Process and product optimization using designed experiments* (4th ed). John Wiley & Sons.

Nahar, K., and S. M. Ullah. 2011. Effect of water stress on moisture content distribution in soil and morphological characters of two tomato (*Lycopersicon esculentum* Mill.) cultivars. Journal of Scientific Research. 3: 677–682.

Naumann, G., L. Alfieri, K. Wyser, L. Mentaschi, R. A. Betts, H. Carrao, J. Spinoni, J. Vogt, and L. Feyen. 2018. Global changes in drought conditions under different

levels of warming. Geophysical Research Letters. 45(7): 3285–3296. https://doi.org/10.1002/2017GL076521

Nawaz, A., M. Amjad, M. A. Pervez, and I. Afzal. 2011. Effect of halopriming on germination and seedling vigor of tomato. African Journal of Agricultural Research. 6(15): 3551–3559. https://doi.org/10.5897/AJAR11.064

Naz, F. 2023. *Plant nutrition, transport, mechanism and sensing in plants*. Academic Press. pp. 209–228.

Nephali, N., L. A. Piater, J. A. Dubery, V. Patterson, J. Huyser, and K. Burgess. 2020. Biostimulants for plant growth and mitigation of abiotic stresses: A metabolomics perspective. Metabolites. 10(505). https://doi.org/10.3390/metabo10120505

Nezhadahmadi, A., Z. H. Prodhan, and G. Faruq. 2013. Drought tolerance in wheat. The Scientific World Journal. (1): 610721. https://doi.org/10.1155/2013/610721

Nio, S. A., dan A. A. Lenak. 2014. Penggulungan daun pada tanaman monokotil saat kekurangan air (*Leaf rolling in monocotyledon plants under water deficit*). Jurnal Bios Logos. 4(2). https://doi.org/10.35799/jbl.4.2.2014.5539

Nobel, P. S. 1999. *Plant physiology, physiochemistrical and environment* (2nd ed.). Academic Press, New San Diego.

Noctor, G., J-P. Reichheld, and C. H. Foyer. 2018. ROS-related redox regulation and signaling in plants. Seminars in Cell & Developmental Biology. 80: 3–12. https://doi.org/10.1016/j.semcdb.2017.07.013

Nonogaki, H. 2017. Seed biology updates–highlights and new discoveries in seed dormancy and germination research. Frontiers in Plant Science. 8: 524. http://doi.org/10.3389/fpls.2017.00524

Ors, S., M. Ekinci, E. Yildirim, U. Sahin, M. Turan, and A. Dursun. 2021. Interactive effects of salinity and drought stress on photosynthetic characteristics and physiology of tomato (*Lycopersicon esculentum* L.) seedlings. South Africa Journal of Botany. 137: 335–339. http://doi.org/10.1016/j.sajb.2020.10.031

Pagès, L., S. Asseng, S. Pellerin, and A. Diggle. 2000. *Modelling Root System Growth and Architecture*. In: Smit, A.L., Bengough, A.G., Engels, C., van Noordwijk, M., Pellerin, S., van de Geijn, S.C. (eds) Root Methods. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-662-04188-8_4

Panah Merah. 2024. Servo F1. < https://beta.panahmerah.id/id/product-detail/servo >. Diakses pada 7 September 2024.

Pandey, V. and A. Shukla. 2015. Acclimation and tolerance strategies of rice under drought stress. Rice Science. 22(4): 147–161. http://doi.org/10.1016/S1672-6308(14)60289-4

Paparella, S., S. S. Araújo, G. Rossi, M. Wijayasinghe, D. Carbonera, and A. Balestrazzi. 2015. Seed priming: state of the art and new perspectives. Plant cell reports. 34(8): 1281-1293. http://doi.org/10.1007/s00299-015-1784-y

Pashiards, S., S. A. Kalogirou, and A. Pelengaris. 2022. Measurements and modelling of photosynthetic active radiation (PAR) at a semi-mountainous site in cyprus. Journal of Scientific & Technical Research. 47(3): 38467 38500.

Pawar, V. A. and S. L. Laware. 2018. Seed priming: A critical review. International Journal of Scientific Research in Biological Sciences. 5(5): 094–101. http://doi.org/10.26438/ijsrbs/v5i5.94101

Pedregosa, F., G. Varoquaux, A. Gramfort, V. Michel, B. Thirion, O. Grisel, M. Blondel, P. Prettenhofer, R. Weiss, V. Dubourg, J. Vanderplas, A. Passos, D. Cournapeau, M. Brucher, M. Perrot, and E. Duchesnay. 2011. Scikit-learn: machine learning in python. Journal of Machine Learning Research. 12: 2825–2830.

Peralta, I. E., D. M. Spooner, and S. Knapp. 2008. Taxonomy of wild tomatoes and their relatives (*Solanum* sect. *Lycopersicoides*, sect. *Juglandifolia*, sect. *Lycopersicon*; *Solanaceae*). Am. Soc. Plant Taxonomists. 151–160. http://doi.org/10.2307/25027972

Pervez, M. A., C. M. Ayub, H. A. Khan, M. A. Shahid, and I. Ashraf. 2009. Effect of drought stress on growth, yield and seed quality of tomato (*Lycopersicon esculentum* L.). Pakistan Journal of Agricultural Sciences. 46(3): 174–178.

Peters J. 2013. *Wisconsin procedures for soil testing, plant analysis and feed & forage analysis*. University of Wisconsin, Madison, USA. https://datcp.wi.gov/Documents/NMProcedures.pdf.

Phung, T. H., H. I. Jung, J. H.Park, J. G. Kim, K. Back, and S. Jung. 2011. Porphyrin biosynthesis control under water stress: Sustained porphyrin status correlates with drought tolerance in transgenic rice. Plant Physiol. 157: 1746–1764. http://doi.org/ 10.1104/pp.111.188276

Pirredda, M., I. Fañanás-Pueyo, L. Oñate-Sánchez, and S. Mira. 2024. Seed longevity and ageing: A review on physiological and genetic factors with an emphasis on hormonal regulation. Plants. 13(1): 41. https://doi.org/10.3390/plants13010041

Poorter, H., and O. Nagel. 2000. The role of biomass allocation in the growth response of plants to different levels of light, CO_2, nutrients and water: A quantitative review. Functional Plant Biology. 27(12): 595–607. https://doi.org/10.1071/PP99173_CO

Qiao, M., C. Hong, Y. Jiao, S. Hou, and H. Gao. 2024. Impacts of drought on photosynthesis in major food crops and the related mechanisms of plant responses to drought. Plants. 13(13): 1808. http://doi.org/10.3390/plants13131808

Rachmawati, S. N. dan R. Haristiani. 2021. Kebutuhan vitamin pada ibu hamil selama masa pandemi covid 19. Jurnal Interprofesi Kesehatan Indonesia. 1(1): 9–22.

Rajjou, L., M. Duval, K. Gallardo, J. Catusse, J. Bally, C.Job, and D. Job. 2012. Seed germination and vigor. Annual Review of Plant Biology. 63(1): 507–533. . http://doi.org/10.1146/annurev-arplant-042811-105532

Ramos-Bueno, R. P., R. Romero-Gonzalez, M. J. Gonzalez-Fernandes, and J. L. Guil-Guerrero. 2017. Phytochemical composition and in vitro anti-tumour activities of

selected tomato varieties. Journal of The Science of Food and Agriculture. 97: 488–496. http://doi.org/10.1002/jsfa.7750

Ranal, M. A., and D. G. de Santana. 2006. How and why to measure the germination process?. Revista Brasileira de Botânica. 29(1): 1–11. http://doi.org/10.1590/S0100-84042006000100002

Raven, P. H., R. F. Evert, and S. E. Eichhorn. 2013. *Biology of plants* (8th ed.). W. H. Freeman/Palgrave Macmillan.

Rehman, M. M., J. Liu, A. Nijabat, I. M. Alsudays, M. A. Saleh, K. H. Alamer, H. Attia, K. Ziaf, Q. U. Zaman, and M. Amjad. 2024. Seed priming with potassium nitrate alleviates the high temperature stress by modulating growth and antioxidant potential in carrot seeds and seedlings. BMC Plant Biology. 24(1): 606. https://doi.org/10.1186/s12870-024-05292-1

Renzetti, M., D. Funck, and M. Trovato. 2025. Proline and ROS: A unified mechanism in plant development and stress response?. Plants. 14(1): 2. https://doi.org/10.3390/plants14010002

Rhaman, M. S., F. Rauf, S. S. Tania, and M. Khatun. 2020. Seed priming methods: Application in field crops and future perspectives. Asian Journal of Research in Crop Science. 5(2): 8–19. https://doi.org/10.9734/ajrcs/2020/v5i230091.

Ritung, S., K.Nugroho, A. Mulyani, dan E. Suryani. 2011. Petunjuk Teknis Evaluasi Lahan Untuk Komoditas Pertanian (edisi Revisi). Bogor : Balai Besar Penelitian dan Pengembangan Sumberdaya Lahan Pertanian, Badan Penelitian dan Pengembangan Pertanian.

Robe, K., and M. Barberon. 2023. Nutrient carriers at the heart of plant nutrition and sensing. Current Opinion in Plant Biology. 74(102376). https://doi.org/10.1016/j.pbi.2023.102376

Robledo, D.A.R. 2020. Effects of halopriming on seed germination and seedling emergence of *Capsicum frutescens*. J Bot Res. 3(1):114–118. https://doi.org/10.36959/771/567

Ruan, Y.-L., J. W. Patrick, M. Bouzayen, S. Osorio, and A. R. Fernie. 2012. Molecular regulation of seed and fruit set and development in tomato. Molecular Plant, 5: 296–310.

Rusdiana, R., H. Sa'diyah, and A. Hadi. 2024. Analysis of drought stress effect on Inpari germination: Survival method. HAYATI Journal of Biosciences. 32(4): 223–232. https://doi.org/10.4308/hjb.32.1.223-232

Sacks M. M, W. K. Silk, and P. Burman. 1997. Effect of water stress on cortical cell division rates within the apical meristem of primary roots of maize. Plant Physiol. 114: 519. https://doi.org/10.1104/pp.114.2.519.

Saha, D., P. Choyal, U. N. Mishra, P. Dey, B. Bose, M. D. Prathibha, N. K. Gupta, B. K. Mehta, P. Kumar, S. Pandey, J. Chauhan, and R. K. Singhal. 2022. Drought stress responses and inducing tolerance by seed priming approach in plants. Plant Stress. 4(100066). https://doi.org/10.1016/j.stress.2022.100066

Sahar, N., N. Khatoon, A. M. Mangrio, N. A. Rindc, and M. Rafiq. 2023. The halopriming of seeds improves the germination, growth, physiological and phytochemical attributes of tomato under saline conditions. Emirates Journal of Food and Agriculture. 35(1): 48–58. https://doi.org/10.9755/ejfa.2023.v35.i1.2985

Sakya, A. T., E. Sulistyaningsih, B. H. Purwantoro, dan D. Indradewa. 2021. Application $ZnSO_4$ on tomato growth under drought stress conditions. In: IOP Conference Series: Earth and Environmental Science. 637: 012077. https://doi.org/10.1088/1755-1315/637/1/012077

Sakya, A. T., E. Sulistyaningsih, D. Indradewa, and B. H. Purwanto. 2018. Physiological characters and tomato yield under drought stress. In: IOP Conference Series: Earth and Environmental Science. 200(1): 012043. https://doi.org/10.1088/1755-1315/200/1/012043

Salehi, B., R. Sharifi-Rad, F. Sharopov, J. Namiesni, A. Roointan, M. Kamle, P. Kumar, N. Martins, and J. Sharifi-Rad. 2019. Beneficial effects and potential risks of tomato consumption for human health: An overview. Nutrition. 62: 201–208. https://doi.org/10.1016/j.nut.2019.01.012

Salisbury, F. B., and C. W. Ross. 1992. *Plant physiology* (4th ed.). Wadsworth Publishing.

Sánchez-Rodríguez, E., M. D. Rubio-Wilhelmi, L. M. Cervilla, B. Blasco, J. J. Rios, R. Leyva, L. Romero, and J. M. Ruiz. 2010. Study of the ionome and uptake fluxes in cherry tomato plants under moderate water stress conditions. Plant Soil. 335: 339–347. http://doi.org/10.1007/s11104-010-0422-2

Santika, P., I. Muhklisin, and S. D. Makama. 2022. Effect of aeration and KNO_3 in seed priming on the germination of tomato (*Solanum lycopersicum*) seeds. Agroteknika. 5(2):151–160. https://doi.org/10.55043/agroteknika.v5i2.153

Sari, N. Y. dan E. T. S. Putra. 2023. Respon anatomis jaringan xylem dan floem akar bibit kelapa sawit tercekam kekeringan terhadap pemupukan kalsium. Jurnal Green House. 2(1): 14–21. https://doi.org/10.55043/agroteknika.v5i2.153

Sari, W. Oksilia, dan Lusmaniar. 2023. Pengaruh konsentrasi pupuk organik cair terhadap komponen hasil dan hasil dua varietas tanaman tomat (*Lycopersicum esculentum* Mill.). Jurnal Ilmu Pertanian Agronitas. 5(1): 331–339. https://doi.org/10.51517/ags.v5i1.204

Schulze, E.D., E. Beck, and K. M. Hohenstein. 2005. *Plant ecology*. Springer, Germany. 700p.

Scott, S.J., R. A. Jones, & W. A. Williams. 1984. Review of data analysis methods for seed germination. Crop Science. 24(6): 1192–1199. http://doi.org/10.2135/cropsci1984.0011183X002400060043x

Sehar, Z., I. R. Mir, S. Khan, A. Masood, and N. A. Khan. 2023. Nitric oxide and proline modulate redox homeostasis and photosynthetic metabolism in wheat plants under high temperature stress acclimation. Plants. 12(6): 1256. http://doi.org/10.3390/plants12061256

Seth, R. 2023. Seed priming to improve tomato productivity in salinity stressed environments: A Review. Biosci Biotech Res Asia. 20(3). http://dx.doi.org/10.13005/bbra/3133

Shabira, S. P., A. I. Hereri, dan E. Kesumawati. 2019. Identifikasi karakteristik morfologi dan hasil beberapa jenis tanaman tomat (*Lycopersicum esculentum*) di dataran rendah. Jurnal Ilmiah Mahasiswa Pertanian. 4(2): 51–60. http://dx.doi.org/10.17969/jimfp.v4i2.11042

Shamshiri, R. R., J. W. Jones, K. R. Throp, D. Ahamad, H. C. Man, and S. Taheri. 2018. Review of optimum temperature, humidity, and vapour pressure deficit for microclimate evaluation and control in greenhouse cultivation of tomato: A review. International Agrophysics. 32(2): 287–302. http://doi.org/10.1515/intag-2017-0005

Shao, H., L. Chu, C. A. Jaleel, and C. Zhao. 2008. Water-deficit stress-induced anatomical changes in higher plants. C.R. Biol. 331: 215-225. https://doi.org/10.1016/j.crvi.2008.01.002

Sharifi, M., K. Mohammadi, and A. Rokhzadi. 2016. Effect of seed priming and foliar application with micronutrients on quality of forage corn (*Zea mays*). Environmental and Experimental Biology. 14: 151–156. https://doi.org/10.22364/eeb.14.21

Shim, S. I., J. Moon, C. S. Jang, P. Raymer, and W. Kim. 2008. Effect of potassium nitrate priming on seed germination of seashore paspalum. HortScience horts. 43(7): 2259–2262. http://doi.org/10.21273/HORTSCI.43.7.2259

Singh, H., R. K. Jassal, J. S. Kang, S. S. Sandhu, H. Kang, and K. Grewal. 2015. Seed priming techniques in field crops - a review. Agricultural Reviews. 36(4): 251–264. http://doi.org/10.18805/ag.v36i4.6662

Sitinjak, N. M., L. Aritonang, dan T. B. Ginting. 2022. Penerapan metode dempster shafer dalam menentukan lokasi pemilihan tempat penanaman bibit tomat pada daerah Kecamatan Lintong Nihuta. Jurnal Widya. 3(1): 68–80. https://doi.org/10.54593/awl.v3i1.84

Sivritepe, H.O. and N. Sivritepe. 2016. Organic seed hydration-dehydration techniques improve seedling quality of organic tomatoes. Notulae Botanicae Hortic Agrobotanici Cluj-Napoc. 44(2): 399–403. https://doi.org/10.15835/nbha44210518

Solankey, S. S., R. K. Singh, D. K. Baranwal, and D. K. Singh. 2015. Genetic expression of tomato for heat and drought stress tolerance: An overview. International Journal of Vegetable Science. 21(5): 496–515. https://doi.org/10.1080/19315260.2014.902414

Solberg, S. O., F. Yndgaard, C. Andreasen, R. Von Bothmer, I. G. Loskutov, and A. Asdal. 2020. Long-term storage and longevity of orthodox seeds: A systematic review. Front. Plant Sci. 11(1007). http://doi.org/10.3389/fpls.2020.01007

Soni, R. A., K. Sudhakar, and R. S. Rana. 2016. Biophotovoltaics and Biohydrogen through artificial photosynthesis: An overview. International Journal of

Environment and Sustainable Development. 15(3): 313–325. https://doi.org/10.1504/IJESD.2016.077391

Sparks, D. L. 2003. Environmental Soil Chemistry (2nd ed.). Academic Press, New York, US.

Srivastava, A. K., C. Zhang, A. K. Yadav, and R. K. Varshney. 2021. Understanding drought tolerance in plants from omics approaches. Current Genomics. 22: 111–124.

Steiner, F., A. M. Zuffo, C. E. da Silva Oliveira, G. B. Honda, and J. S. Machado. 2018. Potassium nitrate priming mitigates salt stress on wheat seedlings. Revista de Ciências Agrárias. 41(4): 989–1000.

Sujana, D., D. Wardani, dan Nurul. 2020. Potensi likopen dari buah tomat (*Solanum lycopersicum* L.) sebagai antiaging tropical. Jurnal Insan Farmasi Indonesia. 3(1): 56–65. https://doi.org/10.36387/jifi.v3i1.479

Suleyman. 2024. Penggunaan CROPWAT 8.0 untuk menentukan kebutuhan air irigasi tanaman tomat pada tanah regosol di Kawasan Ternate Utara, Provinsi Maluku Utara. Jurnal Ilmu-Ilmu Pertanian. 22(1): 26–30. https://doi.org/10.33387/cannarium.v22i1.8373

Sundareswaran, S., P. R. Choudhury, C. Vanitha, and D. K. Yadava. 2023. Seed quality: Variety development to planting: An overview. In M. Dadlani & D. K. Yadava (Eds.). *Seed science and technology* (pp. 1–28). Springer.

Suryanto, H. 2013. Pengaruh beberapa perlakuan penyimpanan terhadap perkecambahan benih suren (*Toona sureni*). Jurnal Penelitian Kehutanan Wallacea. 2(1): 26–40.

Susanto, U., W. R. Rohaeni, and P. Sasmita. 2019. Selecting traits for drought tolerance screening in rice. In Proceedings of the IOP Conference Series: Earth and Environmental Science, Banten, Indonesia, 8–9 August 2019; Institute of Physics Publishing: Bristol, UK, 2019; Volume 383. https://doi.org/10.1088/1755-1315/383/1/012049

Sustr, M., A. Soukup, and E. Tylova. 2019. Potassium in root growth and development. Plants. 8: 435. https://doi.org/10.3390/plants8100435

Syamshiri, A., K. C. Ting, H. C. Man, N. A. Hamid, A. Desa, and S. A. Aziz. 2018. Modelling and evaluating solar radiation distribution inside a naturally ventilated greenhouse. Renewable Energy. 120: 108–119.

Tabassum, T., M. Farooq, R. Ahmad, A. Zohaib, A. Wahid, and M. Shahid. 2018. Terminal drought and seed priming improves drought tolerance in wheat. Physiology and Molecular Biology of Plants. 24: 845–856. http://doi.org/10.1007/s12298-018-0573-5

Taiz, L., and E. Zeiger. 2010. *Plant physiology* (5th ed.). Sinauer Associates.

Taiz, L., E. Zeiger, I. M. Møller, and A. Murphy. 2015. *Plant physiology and development* (6th ed.). Sinauer.

Tarmizi, A. H. A., S. N. Rahmat, A. T. A. Karim, and N. N. A. Tukimat. 2019. Climate change and its impact on rainfall. International Journal of Integrated Engineering. 11(1): 170–177. http://doi.org/10.30880/ijie.2019.11.01.020

Tatsumi, J., A. Yamauchi, and Y. Kono. 1989. Fractal analysis of plant root systems. Annals of Botany. 64: 499–503.

Teshome, W., T. Tana, N. Dechassa, and T. N. Singh. 2018. Effect of seed priming on germination and seedling growth of grain sorghum (*Sorghum bicolor* L. Moench) varieties. East African Journal of Sciences. 12(1): 51–60. https://doi.org/10.20372/eajs.v12i1.477

Thiruppathi, M., R. Kavitha, and K. Thanunathan. 2018. Seed priming techniques for drought tolerance and its effect on growth of hybrid castor. Innovations in Agriculture. 1(1): 13–15. https://doi.org/10.25081/ia.2018.v1.i1.1027

Thongbam, S., V. Sinam, B. A. S. Mentada, A. M. Kalangutkar, and A. Siddique. 2023. Priming-mediated triggering of antioxidative response to induce drought tolerance in Maize (*Zea mays* L.). Plant Science. 10: 247–252. https://doi.org/10.14719/pst.2109

Turan, M., M. Ekinci, S. Argin, M. Brinza**,** and E. Yildirim. 2023. Drought stress amelioration in tomato (*Solanum lycopersicum* L.) seedlings by biostimulant as regenerative agent. Frontier in Plant Science. 14(1211210). http://doi.org/10.3389/fpls.2023.1211210

USDA. 2024. Classification for Kingdom Plantae Down to Species *Solanum lycopersicum* L. < https://plants.usda.gov/home/classification/55438 >. Diakses pada 7 September 2024.

Vaktabhai, C.K., Kumar, S. 2017. Seedling invigouration by halo priming in tomato against salt stress. Journal of Pharmacognosy and Phytochemistry. 6(6): 716–722.

Verbruggen, N., and C. Hermans. 2008. Proline accumulation in plants: A review. Amino Acids. 35: 753–759.

Vidal, A., D. Cantabella, A. Bernal-Vicente, P. Díaz-Vivancos, and J. A. Hernández. 2018. Nitrate-and nitric oxide-induced plant growth in pea seedlings is linked to antioxidative metabolism and the ABA/GA balance. Journal of plant physiology. 230: 13–20. http://doi.org/10.1016/j.jplph.2018.07.008

Vilanova, R. S., R. C. Delgado, C. F. de Andrade, G. L. dos Santos, I. C. Magistrali, C. M. M. de Oliveira, P. E. Teodoro, G. F. C. Silva, C. A. da Silva Junior, and R. de Ávila Rodrigues. 2021. Vegetation degradation in ENSO events: Drought assessment, soil use and vegetation evapotranspiration in the Western Brazilian Amazon. Remote Sensing Applications: Society and Environment. 23: 100531. https://doi.org/10.1016/j.rsase.2021.100531

Walters, C., D. Ballesteros, and V. A. Vertucci. 2010. Structural mechanics of seed deterioration: Standing the test of time. Plant Sci. 179: 565–573. http://doi.org/10.1016/j.plantsci.2010.06.016

Walters, C., L. M. Wheeler, and J. M. Grotenhuis. 2005. *Longevity of seeds in a gene-bank: Species characteristics*. Cambridge University Press Cambridge, UK.

Wang, R., L. Liu, Y. Guo, X. He, and Q. Lu. 2020. Effects of deterioration and mildewing on the quality of wheat seeds with different moisture contents during storage. RSC advances. 10(25): 14581–14594. http://doi.org/10.1039/D0RA01037B

Waterworth, W., A. Balobaid, and C. West. 2024. Seed longevity and genome damage. Bioscience Reports. 44: BSR20230809. http://doi.org/10.1042/BSR20230809

White, R. E. 2006. Principles and Practice of Soil Science: The Soil as a Natural Resource (4th ed.). Blackwell, UK.

Wickham, H., and G. Grolemund. 2016. *R for data science*. O'Reilly Media.

Wilkinson, S., A. L. Clephan, and W. J. Davies. 2005. Rapid regulation of stomatal conductance by abscisic acid. Plant, Cell & Environment. 25: 265–283.

Wong, C. E., C. Tan, C. -L. Ho, N. -C. Wong, W. -S. Yong, and Y. -P. Lee. 2022. Transcriptomic perspectives on tomato drought responses. Frontiers in Plant Science. 13(850967).

Xie, G., R. Xu, L. Chong, and Y. Zhu. 2024. Understanding drought stress response mechanisms in tomato. Vegetable Research. 4(1). http://doi.org/10.48130/vegres-0023-0033

Ximénez-Embún, M. G., F. Ortego, and P. Castañera. 2016. Drought-stressed tomato plants trigger bottom–up effects on the invasive *Tetranychus evansi*. PloS one. 11(1): e0145275. http://doi.org/10.1371/journal.pone.0145275

Yadav, S., D. Singh, and D. P. Singh. 2025. An overview of the effects of seed priming on various crops. International Journal of Advanced Biochemistry Research. 9(5): 36–40

Yang, X., B. Wang, L. Chen, P. Li, and C. Cao. 2019. The different influences of drought stress at the flowering stage on rice physiological traits, grain yield, and quality. Scientific Reports. 9(3742): 1–9. http://doi.org/10.1038/s41598-019-40161-0

Yoshida, T., J. Mogami, and K. Yamaguchi-Shinozaki. 2011. ABA-dependent and ABA-independent signaling in response to osmotic stress in plants. Current Opinion in Plant Biology. 14: 3–9.

Zaitialia, M., H. N. A. Shafienaz, U. A. Witty, and B. M. Arizal. 2021. Effect of seed priming treatments on seed quality of tomato (*Solanum lycopersicum*). Transactions of the Malaysian Society of Plant Physiology. 28: 159–164.

Zakariyya, F. 2017. Karakter morfologi perakaran beberapa semaian klon kakao asal biji. Agropross: National Conference Proceedings of Agriculture. 1: 13–16.

Zegaoui, Z., S. Planchais, C. Cabassa, R. Djebbar, O. Belbachir, and P. Carol. 2017. Variation in relative water content, proline accumulation and stress gene

expression in two cowpea landraces under drought. Journal of Plant Physiology. 218: 26–34. http://doi.org/10.1016/j.jplph.2017.07.009

Zhang, K., Y. Zhang, J. Sun, J. Meng, and J. Tao. 2021. Deterioration of orthodox seeds during ageing: Influencing factors, physiological alterations and the role of reactive oxygen species. Plant Physiology and Biochemistry. 158: 475–485. http://doi.org/10.1016/j.plaphy.2020.11.031

Zhang, L., Q. Tang, P. Li, C. Li, L. Jiang, J. Chen, Y. Chen, Q. Liu, and Y. Yang. 2024. Methodological and physiological study during seed dormancy release of *Symplocos paniculata*. Plants. 13(11): 1459. http://doi.org/10.3390/plants13111459

Zhu, M., G. Chen, J. Zhang, Y. Zhang, Q. Xie, Z. Zhao, Y. Pan, and Z. Hu. 2014. The abiotic stress-responsive NAC type transcription factor SlNAC4 regulates salt and drought tolerance and stress-related genes in tomato (*Solanum lycopersicum*). Plant Cell Rep. 33: 1851–1863. http://doi.org/10.1007/s00299-014-1662-z

Zulfiqar, F. 2021. Effect of seed priming on horticultural crops. Scientia Horticulturae, 286(110197).

Zulkarnain. 2022. *Budidaya sayuran tropis*. Bumi Aksara, Jakarta.