

## DAFTAR PUSTAKA

- Afa, L. O., Purwoko, B. S., Junaedi, A., Haridjaja, O., & Dewi, I. S. (2013). Deteksi dini toleransi padi hibrida terhadap kekeringan menggunakan PEG 6000. *Jurnal Agronomi Indonesia*, 41(1), 9–15.
- Afza, H., & Iriawati. (2015). Pengaruh iradiasi ultraviolet terhadap multiplikasi tunas aksiler dan kadar klorofil anyelir (*Dianthus caryophyllus* L.). *Buletin Plasma Nutfah*, 21(1), 39–46.
- Alibasyah, R. (2016). Perubahan beberapa sifat fisika dan kimia ultisol akibat pemberian pupuk kompos dan kapur dolomit pada lahan berteras. *Jurnal Floratek*, 11(1), 75–87.
- Andarwulan, N., Nuraida, L., Adawiyah, D. R., Noviar, R., Agustin, D., & Gitapratwi, D. (2018). Pengaruh perbedaan jenis kedelai terhadap kualitas mutu tahu. *Jurnal Mutu Pangan*, 5(2), 66–72.
- Andyanie, W. R. (2016). Pengembangan produksi kedelai sebagai upaya kemandirian pangan di Indonesia. *Mitra Wacana Media*.
- Ariani, R., Anggraito, Y. U., & Rahayu, E. S. (2016). Respon pembentukan kalus koro benguk (*Mucuna pruriens* L.) pada berbagai konsentrasi 2,4-D dan BAP. *Jurnal MIPA*, 39(1), 20–28.
- Aritonang, L. L. (2022). Respon cekaman kekeringan pada beberapa varietas tebu unggul (*Saccharum officinarum* L.) hasil induksi polyethylen glycol (PEG 6000) secara in vitro. Universitas Lampung.
- Arsyam, a., abdullah, & said, n. s. (2020). daya regenerasi kalus eksplan embrio kedelai (*Glycine max* L.) pada berbagai konsentrasi hormon tumbuh 2,4 D dan BAP secara in vitro. *Jurnal AGrotekMAS*, 1(3), 8–15.
- Azhari, S., & Violita. (2019). Identification of drought tolerance of west sumatera local rice (*Oryza sativa* L.) at germination stage using PEG 8000. *Bio Sains*, 4(1), 21–28.
- Badan Pangan Nasional. (2022). *Laporan kinerja badan pangan nasional tahun anggaran 2022*. Jakarta.
- Badan Penelitian dan Pengembangan Pertanian, (Balitbangtan). (2018). *600 Teknologi inovatif pertanian*. IAARD Press. <https://repository.pertanian.go.id/server/api/core/bitstreams/a7764c33-7a34-4429-b9b1-8ce06c2f13aa/content>
- Badan Pusat Statistik, (BPS). (2023). *Impor kedelai menurut negara asal utama 2017-2022*. <https://www.bps.go.id/>
- Badan Riset dan Inovasi Nasional, (BRIN). (2023). *Peneliti BRIN kaji kesiapan varietas unggul aneka kacang dukung ketahanan pangan nasional*. <https://brin.go.id/news/113811/peneliti-brin-kaji-kesiapan-varietas-unggul-aneka-kacang-dukung-ketahanan-pangan-nasional>.

- Capek, J., & Rousar, T. (2021). Detection of oxidative stress induced by nanomaterials in cells the roles of reactive oxygen species and glutathione. *Molecules*, 26(16), 4710. <https://doi.org/10.3390/molecules26164710>
- Cetin, E. (2014). Induction of secondary metabolite production by UV-C radiation in *Vitis vinifera* L. Öküzgözü callus cultures. *Biological Research*, 47(1), 37. <https://doi.org/10.1186/0717-6287-47-37>
- Chowdhury, J., Karim, M., Khaliq, Q., Ahmed, A., & Mondol, A. M. (2018). Effect of drought stress on water relation traits of four soybean genotypes. *SAARC Journal of Agriculture*, 15(2), 163–175. <https://doi.org/10.3329/sja.v15i2.35146>
- Damanik, R. I., Manurung, B. H., & Bayu, E. S. (2018). Effects of hypoxia condition in embryogenic callus growth of soybean cell culture. *IOP Conference Series: Earth and Environmental Science*, 122, 012056. <https://doi.org/10.1088/1755-1315/122/1/012056>
- Damayanti, F. (2021). Potensi pemuliaan mutasi radiasi sebagai upaya peningkatan variasi genetik pada tanaman hias. *EduBiologia*, 1(2), 78–84.
- Danon, A., & Gallois, P. (1998). UV-C radiation induces apoptotic-like changes in *Arabidopsis thaliana*. *FEBS Letters*, 437(1–2), 131–136. [https://doi.org/10.1016/S0014-5793\(98\)01208-3](https://doi.org/10.1016/S0014-5793(98)01208-3)
- Deng, C., Zhang, Y., Wang, B., Wang, H., Xue, P., Cao, Y., Sun, L., Cheng, S., Cao, L., & Chen, D. (2023). Identification and fine mapping of osdsm3, a drought-sensitive gene in rice (*Oryza sativa* L.). *Agronomy*, 13(9), 2241. <https://doi.org/10.3390/agronomy13092241>
- Des, & Chatri, M. (2007). *Kultur kalus kedelai (Glycine max l.) dengan penambahan hyponex pada medium sederhana*. Universitas Negeri Padang.
- Destasari, A. N., Suharyono, & Yulianto, E. (2015). Pengaruh produksi kedelai dalam negeri dan harga kedelai dunia terhadap volume impor kedelai di indonesia (studi terhadap volume impor kedelai tahun 1996-2013). *Jurnal Administrasi Bisnis*, 1(1), 1–8.
- Dewani, N. A., & Rahayu, M. S. (2023). Seleksi *in vitro* batang bawah jeruk japonsche citroen pada kondisi cekaman kekeringan. *Buletin Agrohorti*, 11(1), 11–17. <https://doi.org/10.29244/agrob.v11i1.46573>
- Dewi, I. P., & Wiendi, N. M. A. (2023). Induksi Mutasi kromosom dengan iradiasi sinar gamma cobalt 60 untuk merakit padi (*Oryza sativa*) tahan kekeringan secara *in vitro*. *Buletin Agrohorti*, 11(2), 286–296.
- Ehsanpour, A. A., Madani, S., & Hoseini, M. (2007). *Detection of somaclonal variation in potato callus induced by UV-C radiation using RAPD-PCR*. 33(1–2), 3–11.
- Ehsanpour, A. A., & Razavizade, R. (2005). Effect of UV-C on drought tolerance of alfalfa (*Medicago sativa*) callus. *American Journal of Biochemistry and Biotechnology*, 1(2), 107–110. <https://doi.org/10.3844/ajbbbsp.2005.107.110>
- Elmaghrabi, A. M., Rogers, H. J., Francis, D., & Ochatt, S. J. (2017). PEG induces high expression of the cell cycle checkpoint gene WEE1 in embryogenic

- callus of *Medicago truncatula*: potential link between cell cycle checkpoint regulation and osmotic stress. *Frontiers in Plant Science*, 8, 1479. <https://doi.org/10.3389/fpls.2017.01479>
- Fajriyah, N., Karno, & Kusmiyati, F. (2019). Induksi mutasi kedelai (*Glycine max* (L.) Merrill) dengan sodium azida pada tanah salin. *Jurnal Agro Complex*, 3(1), 1–8.
- Fehér, A., Pasternak, T. P., & Dudits, D. (2003). Transition of somatic plant cells to an embryogenic state. *Plant Cell, Tissue and Organ Culture*, 74(3), 201–228. <https://doi.org/10.1023/A:1024033216561>
- Forstera, B. P., & Shu, Q. Y. (2012). Plant mutagenesis in crop improvement: basic terms and applications. in *plant mutation breeding and biotechnology* (pp. 9–20). Plant Breeding and Genetics Section Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture International Atomic Energy Agency, Vienna, Austria.
- Guo, W., Xing, Y., Luo, X., Li, F., Ren, M., & Liang, Y. (2023). Reactive oxygen species: a crosslink between plant and human eukaryotic cell systems. *International Journal of Molecular Sciences*, 24(17), 13052. <https://doi.org/10.3390/ijms241713052>
- Gustian, Setiawan, R. B., Syarif, A., Yaherwandi, Nisaa, Q., & Nastiti, D. H. (2022). Somatic embryogenesis of soybean *Glycine Max* (L.) Merr. *IOP Conference Series: Earth and Environmental Science*, 1097(1), 012012. <https://doi.org/10.1088/1755-1315/1097/1/012012>
- Handayani, S., Pratiwi, Y. S., & Fatmawati, N. (2020). Produk olahan kedelai (*Glycine max* (L.) Merill) mengurangi gejala pada wanita menopause. *Jurnal Kesehatan Qamarul Huda*, 8(1), 63–67. <https://doi.org/10.37824/jkqh.v8i1.2020.183>
- Handayati, W. (2013). Perkembangan pemuliaan mutasi tanaman hias di Indonesia. *Jurnal Ilmiah Aplikasi Isotop Dan Radiasi*, 9(1), 67–80.
- Hapsari, B. W., & Martin, A. F. (2017). Perlakuan *polyethylene glycol* secara *in vitro* terhadap pertumbuhan tunas mutan taka untuk seleksi toleran kekeringan. *Prosiding Seminar Nasional Fak. Pertanian UMJ*, 262–271.
- Hapsoh, Yahya, S., Oelim, T. M. H., & Sopandie, D. (2004). Response beberapa genotipe kedelai terhadap tingkat cekaman kekeringan tanah ultisol. *Buletin Agronomi*, 32(3), 1–8.
- Hou, X., Liu, W., Zuo, W., Zhang, R., Zou, Q., Zhang, S., Zhu, Y., Mei, Z., Wang, N., Wei, J., Zhang, Z., & Chen, X. (2022). Analysis of enzymes and phenolic metabolites which affecting the anti-browning property of ‘Shannongsu’ pear. *LWT*, 168, 113919. <https://doi.org/10.1016/j.lwt.2022.113919>
- Husni, A., Kosmiatin, M., & Mariska, I. (2006). Peningkatan toleransi kedelai sindoro terhadap kekeringan melalui seleksi *in vitro*. *Buletin Agronomi*, 34(1), 25–31.

- International Atomic Energy Agency, (IAEA). (2023). *Mutant variety database*. <https://nucleus.iaea.org/sites/mvd/SitePages/Home.aspx>
- Irmawati, I., Solichatun, S., & Anggarwulan, E. (2007). Pertumbuhan dan kandungan reserpin kultur kalus *Rauvolfia verticillata* pada Variasi konsentrasi sukrosa dalam media MS. *Biofarmasi Journal of Natural Product Biochemistry*, 5(1), 38–46. <https://doi.org/10.13057/biofar/f050105>
- Kadir, A. (2006). *Induksi dan perbanyak populasi kalus, regenerasi tanaman serta uji respon kalus terhadap konsentrasi PEG dan dosis iradiasi sinar gamma*. Universitas Islam Makassar.
- Khumaida, N., & Handayani, T. (2010). Induksi dan proliferasi kalus embriogenik pada beberapa genotipe kedelai. *Jurnal Agronomi Indonesia*, 38(1), 19–24.
- Khumaida, N., Purwito, A., Syukur, M., & Aardie, S. W. (2016). *Penapisan cepat beberapa varietas kedelai terhadap cekaman kekeringan pada fase perkecambahan*. Seminar Nasional PERHORTI dan PERAGI Universitas Hasanuddin. 522–533.
- Kim, J. S., Park, H.-M., Chae, S., Lee, T.-H., Hwang, D.-J., Oh, S.-D., Park, J.-S., Song, D.-G., Pan, C.-H., Choi, D., Kim, Y.-H., Nahm, B. H., & Kim, Y.-K. (2014). A pepper MSRB2 gene confers drought tolerance in rice through the protection of chloroplast-targeted genes. *PLoS ONE*, 9(3), e90588. <https://doi.org/10.1371/journal.pone.0090588>
- Kirkham, M. B. (2014). *Principles of soil and plant water relations* (Second edition). Elsevier.
- Kumar, G. P., Subiramani, S., Govindarajan, S., Sadasivam, V., Manickam, V., Mogilicherla, K., Thirupathi, S. K., & Narayanasamy, J. (2015). Evaluation of different carbon sources for high frequency callus culture with reduced phenolic secretion in cotton (*Gossypium hirsutum* L.) cv. SVPR-2. *Biotechnology Reports*, 7, 72–80. <https://doi.org/10.1016/j.btre.2015.05.005>
- Kumar, K., Debnath, P., Singh, S., & Kumar, N. (2023). An overview of plant phenolics and their involvement in abiotic stress tolerance. *Stresses*, 3(3), 570–585. <https://doi.org/10.3390/stresses3030040>
- Kumianjani, E., Damanik, R. I., & Siregar, L. A. M. (2015). Pengaruh pemberian 2,4-D terhadap pertumbuhan dan metabolisme kalus kedelai pada kondisi hipoksida secara *in vitro*. *Jurnal Agrekoteknologi*, 4(1), 673–1680.
- Lestari, E. G. (2016a). Combination of somaclonal variation and mutagenesis for crop improvement. *Jurnal AgroBiogen*, 8(1), 38. <https://doi.org/10.21082/jbio.v8n1.2012.p38-44>
- Lestari, E. G. (2016b). *Pemuliaan tanaman melalui induksi mutasi dan kultur in vitro*. IAARD Press.
- Lestari, E. G. (2021). Aplikasi induksi mutasi untuk pemuliaan tanaman hias. *Jurnal ilmu-ilmu Hayati*, 20(1), 1–12. <https://doi.org/10.14203/berita-biologi.v20i1.3991>



- Li, H., Cai, Z., Wang, X., Li, M., Cui, Y., Cui, N., Yang, F., Zhu, M., Zhao, J., Du, W., He, K., Yi, J., Tax, F. E., Hou, S., Li, J., & Gou, X. (2019). SERK *Receptor-like Kinases* control division patterns of vascular precursors and ground tissue stem cells during embryo development in *Arabidopsis*. *Molecular Plant*, *12*(7), 984–1002. <https://doi.org/10.1016/j.molp.2019.04.011>
- Limbongan, Y. (2023). *Teknologi pemuliaan tanaman menginspirasi inovasi pertanian* (1st ed.). Eureka Media Aksara.
- Malau, L. R. E., Rambe, K. R., Ulya, N. A., & Purba, A. G. (2023). Dampak perubahan iklim terhadap produksi tanaman pangan di Indonesia. *Jurnal Penelitian Pertanian Terapan*, *23*(1), 34–46. <https://doi.org/10.25181/jppt.v23i1.2418>
- Mansoor, S., Ali Wani, O., Lone, J. K., Manhas, S., Kour, N., Alam, P., Ahmad, A., & Ahmad, P. (2022). Reactive oxygen species in plants: from source to sink. *Antioxidants*, *11*(2), 225. <https://doi.org/10.3390/antiox11020225>
- Marjamaa, K., Kukkola, E. M., & Fagerstedt, K. V. (2009). The role of xylem class III peroxidases in lignification. *Journal of Experimental Botany*, *60*(2), 367–376. <https://doi.org/10.1093/jxb/ern278>
- Mba, C. (2013). Induced mutations unleash the potentials of plant genetic resources for food and agriculture. *Agronomy*, *3*(1), 200–231. <https://doi.org/10.3390/agronomy3010200>
- Mba, C., Afza, R., & Shu, Q. Y. (2012). Mutagens and induced mutagenesis. In *Plant Mutation Breeding and Biotechnology* (pp. 83–90). Plant Breeding and Genetics Section Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture International Atomic Energy Agency, Vienna, Austria.
- Méndez-Hernández, H. A., Ledezma-Rodríguez, M., Avilez-Montalvo, R. N., Juárez-Gómez, Y. L., Skeete, A., Avilez-Montalvo, J., De-la-Peña, C., & Loyola-Vargas, V. M. (2019). Signaling overview of plant somatic embryogenesis. *Frontiers in Plant Science*, *10*, 77. <https://doi.org/10.3389/fpls.2019.00077>
- Mishra, N., Tripathi, M. K., Tiwari, S., Tripathi, N., Sapre, S., Ahuja, A., & Tiwari, S. (2021). Cell suspension culture and in vitro screening for drought tolerance in soybean using *poly-ethylene glycol*. *Plants*, *10*(3), 517. <https://doi.org/10.3390/plants10030517>
- Nadafzadeh, M., Abdanan Mehdizadeh, S., & Soltanikazemi, M. (2018). Development of computer vision system to predict peroxidase and polyphenol oxidase enzymes to evaluate the process of banana peel browning using genetic programming modeling. *Scientia Horticulturae*, *231*, 201–209. <https://doi.org/10.1016/j.scienta.2017.12.047>
- Nastiti, D. H. (2022). *Induksi embrio somatik sekunder kedelai (Glycine max (L.) Merrill) varietas dega dengan pemberian kombinasi 2,4-D dan NAA secara in vitro*. Universitas Andalas.

- Nichols, S. N., Hofmann, R. W., & Williams, W. M. (2015). Physiological drought resistance and accumulation of leaf phenolics in white clover interspecific hybrids. *Environmental and Experimental Botany*, *119*, 40–47. <https://doi.org/10.1016/j.envexpbot.2015.05.014>
- Ningrum, A. R., Nuraini, A., Suminar, E., & Mubarok, S. (2020). Respons dua mutantomat terhadap cekaman kekeringan. *Kultivasi*, *19*(2). <https://doi.org/10.24198/kultivasi.v19i2.27095>
- Nur'aini. (2022). *Respons fisiologis dan anatomis akar kedelai [Glycine max (L.) Merr.] 'DEGA 1' pada perbedaan ketersediaan air*. Universitas Gadjah Mada.
- Ouyang, W., Chen, L., Ma, J., Liu, X., Chen, H., Yang, H., Guo, W., Shan, Z., Yang, Z., Chen, S., Zhan, Y., Zhang, H., Cao, D., & Zhou, X. (2022). Identification of quantitative trait locus and candidate genes for drought tolerance in a soybean recombinant inbred line population. *International Journal of Molecular Sciences*, *23*(18), 10828. <https://doi.org/10.3390/ijms231810828>
- Pamungkas, S. S. T., Suwanto, Suprayogi, & Farid, N. (2022). Drought stress: responses and mechanism in plants. *Reviews in Agricultural Science*, *10*(0), 168–185. [https://doi.org/10.7831/ras.10.0\\_168](https://doi.org/10.7831/ras.10.0_168)
- Permadi, N., Akbari, S. I., Prismantoro, D., Indriyani, N. N., Nurzaman, M., Alhasnawi, A. N., Doni, F., & Julaeha, E. (2024). Traditional and next-generation methods for browning control in plant tissue culture: Current insights and future directions. *Current Plant Biology*, *38*, 100339. <https://doi.org/10.1016/j.cpb.2024.100339>
- Pujiwati, H., Romeida, A., Widodo, Prameswari, W., Husna, M. L., & Anandyawati. (2021). *Rapid screening tolerance of 19 soybean varieties to drought in the germination phase*. International Seminar on Promoting Local Resources for Sustainable Agriculture and Development (ISPLRSAD 2020), Bengkulu, Sumatra, Indonesia, Indonesia. <https://doi.org/10.2991/absr.k.210609.044>
- Rasud, Y., Bustaman, B., & Sekolah Tinggi Ilmu Pertanian Mujahidin Tolitoli, Jl. Dr. Samratulangi No. 51 Tolitoli Sulawesi Tengah 94515. (2020). *In vitro* callus induction from clove (*Syzigium aromaticum* L.) leaves on medium containing various auxin concentrations. *Jurnal Ilmu Pertanian Indonesia*, *25*(1), 67–72. <https://doi.org/10.18343/jipi.25.1.67>
- Riduan, A. (2016). Seleksi *in vitro* embrio somatik kedelai varietas anjasmoro pada media polietilena glikol untuk menstimulasi stres kekeringan. *Prosiding Seminar Nasional BKS PTN Wilayah Barat Bidang Ilmu Pertanian*, *1*, 75–82.
- Ritung, S., Husen, E., Agus, F., & Nursyamsi, D. (with IAARD Press). (2015). *Sumber daya lahan pertanian Indonesia: luas, penyebaran, dan potensi ketersediaan*. Indonesian Agency for Agricultural Research and Development Press.

- Romeida, A., Pujiwati, H., Supanjani, Fahrurrozi, Marlin, & Herawati, R. (2021). *The induction of callus in four diverse black soybeans ( Glycine soja Sieb. & Zucc) with various combinations of cytokinins and 2,4-dichlorophenoxyacetic acid*. International Seminar on Promoting Local Resources for Sustainable Agriculture and Development (ISPLRSAD 2020), Bengkulu, Sumatra, Indonesia, Indonesia. <https://doi.org/10.2991/absr.k.210609.083>
- Rosawanti, P. (2016). Pertumbuhan akar kedelai pada cekaman kekeringan. *Jurnal Daun*, 3(1), 21–28.
- Ruminta, R., Irwan, A. W., Nurmala, T., & Ramadayanty, G. (2020). Analisis dampak perubahan iklim terhadap produksi kedelai dan pilihan adaptasi strategisnya pada lahan tadah hujan di Kabupaten Garut. *Kultivasi*, 19(2). <https://doi.org/10.24198/kultivasi.v19i2.27998>
- Sari, R. L. K., & Ermavitalini, D. (2013). Respon pertumbuhan embrio somatik kedelai (*Glycine max*) varietas Argomulyo dan Wilis terhadap cekaman NaCl. *Jurnal Sains Dan Seni Pomits*, 2(1), 155–158.
- Savitri, E. S., & Fikriyah, A. (2016). Induksi mutasi dengan mutagen EMS (*Ethyl Methane Sulfonate*) pada fase perkecambahan dan pertumbuhan varietas kedelai (*Glycine max*) toleran kekeringan. *Prosiding Seminar Nasional from Basic Science to Comprehensive Education*, 2(1). <https://doi.org/10.24252/psb.v2i1.3533>
- Savitri, E. S., & Resmisari, R. S. (2019). The expression of drought resistance GmDREB-1 gene on soybean (*Glycine max* L. Merr) as result of EMS mutation induction (*Ethyl Methane Sulfonate*). *International Journal of Engineering & Technolog*, 8(1.9), 250–253.
- Scurek, O. (2009). *Characteristics of Glycine max*. [http://bioweb.uwlax.edu/bio203/s2009/scurek\\_oliv/Characteristics.htm](http://bioweb.uwlax.edu/bio203/s2009/scurek_oliv/Characteristics.htm)
- Setiawan, R. B., Khumaida, N., & Dinarti, D. (2015). Induksi mutasi kalus embriogenik gandum (*Triticum aestivum* L.) melalui iradiasi sinar gamma untuk toleransi suhu tinggi. *Jurnal Agronomi Indonesia (Indonesian Journal of Agronomy)*, 43(1), 36. <https://doi.org/10.24831/jai.v43i1.9589>
- Setiawan, R., Soedradjad, R., & Tri Agus, S. (2015). Pengaruh cekaman kekeringan terhadap pertumbuhan dan karakter protein pada hasil produksi tanaman sorgum (*Sorghum bicolor* L. Moench). *Berkala Ilmiah Pertanian*, 1(1), 1–4.
- Sholikhah, L. L. (2014). *Pengaruh Fe<sup>2+</sup> pada media MS dengan penambahan 2,4-D yang dikombinasikan dengan air kelapa terhadap perkembangan dan kandungan metabolit sekunder asiaticosida dan madekasosida kalus pegagan (Centella asiatica L.Urban)*. Universitas Islam Negeri Maulana Malik Ibrahim.
- Shomali, A., Das, S., Arif, N., Sarraf, M., Zahra, N., Yadav, V., Aliniaiefard, S., Chauhan, D. K., & Hasanuzzaman, M. (2022). Diverse physiological roles of flavonoids in plant environmental stress responses and tolerance. *Plants*, 11(22), 3158. <https://doi.org/10.3390/plants11223158>



- Sopandie, D. (2013). *Fisiologi adaptasi tanaman terhadap cekaman abiotik pada Agroekosistem Tropika* (1st ed.). IPB Press.
- Stefia, E. M. (2017). *Analisis morfologi dan struktur anatomi tanaman kedelai (Glycine max L.) pada Kondisi Tergenang*.
- Sulastri, Rosdayanti, H., & Nawfetrias, W. (2021). Potensi pembentukan alfalfa (*Medicago sativa*) toleran kering melalui induksi mutasi iradiasi sinar UV-C dan seleksi variasi somaklonal. *Prosiding Seminar Nasional Komisi Nasional Sumber Daya Genetik*, 693–705.
- Sulichantini, E. D., Nazari, A. P. D., & Nuansyah, A. (2023). Aplikasi kombinasi jenis dan konsentrasi antioksidan yang berbeda sebagai penghambat browning pada perbanyakan pisang cavendish secara kultur jaringan. *Jurnal Agroekoteknologi Tropika Lembab*, 5(2), 78–83.
- Suminar, E., Sumadi, Mubarak, S., Sunarto, T., & Rini, N. S. E. (2017). Percepatan penyediaan benih sumber kedelai unggul secara *in vitro*. *Jurnal Agrikultura*, 28(3), 126–135.
- Sun, Y., Xie, X., & Jiang, C.-J. (2024). Antioxidant agriculture for stress-resilient crop production: field practice. *Antioxidants*, 13(2), 164. <https://doi.org/10.3390/antiox13020164>
- Surmaini, E., & Faqih, A. (2016). Kejadian iklim ekstrem dan dampaknya terhadap pertanian tanaman pangan di Indonesia. *Jurnal Sumberdaya Lahan*, 10(2), 115–128.
- Tang, L. P., Zhang, X. S., & Su, Y. H. (2020). Regulation of cell reprogramming by auxin during somatic embryogenesis. *ABIOTECH*, 1(3), 185–193. <https://doi.org/10.1007/s42994-020-00029-8>
- Ubudiyah, I. W. A., & Nurhidayati, T. (2013). Respon kalus beberapa varietas padi (*Oryza sativa* L.) pada kondisi cekaman salinitas (NaCl) secara *in vitro*. *Jurnal Sains Dan Seni Pomits*, 2(2), 2337–3520.
- United State Department of Agriculture-Agriculture Research Service (USDA-ARS). (2020). *Germplasm Resources Information Network (GRIN-Taxonomy)* [Database].
- Vargas, V. M. L., & Alejo, N. O. (2016). Somatic embryogenesis. an overview. In V. M. L. Vargas & N. O. Alejo (Eds.), *Somatic embryogenesis: fundamental aspects and applications* (pp. 1–8). Springer International Publishing. [https://doi.org/10.1007/978-3-319-33705-0\\_1](https://doi.org/10.1007/978-3-319-33705-0_1)
- Wei, S., Hu, W., Deng, X., Zhang, Y., Liu, X., Zhao, X., Luo, Q., Jin, Z., Li, Y., Zhou, S., Sun, T., Wang, L., Yang, G., & He, G. (2014). A rice calcium-dependent protein kinase OsCPK9 positively regulates drought stress tolerance and spikelet fertility. *BMC Plant Biology*, 14(1), 133. <https://doi.org/10.1186/1471-2229-14-133>
- Widoretno, W., Arumningtyas, E. L., & Sudarsono. (2003). Metode induksi pembentukan embrio somatik dari kotiledon dan regenerasi plantlet kedelai secara *in vitro*. *Hayati*, 10(1), 19–24.



- Widoretno, W., Megia, R., & Sudarsono. (2003). Reaksi embrio somatik kedelai terhadap polietilena glikol dan penggunaannya untuk seleksi *in vitro* terhadap cekaman kekeringan. *Hayati*, *10*(4), 134–139.
- Yang, C., Huang, Y., Lv, P., Antwi-Boasiako, A., Begum, N., Zhao, T., & Zhao, J. (2022). NAC transcription factor GmNAC12 improved drought stress tolerance in soybean. *International Journal of Molecular Sciences*, *23*(19), 12029. <https://doi.org/10.3390/ijms231912029>
- Zavattieri, M. A., Frederico, A. M., Lima, M., Sabino, R., & Arnholdt-Schmitt, B. (2010). Induction of somatic embryogenesis as an example of stress-related plant reactions. *Electronic Journal of Biotechnology*, *13*(1), 0–0. <https://doi.org/10.2225/vol13-issue1-fulltext-4>
- Zhang, P., Huang, Z., Zhang, H., Lu, H., Li, Q., Zhuo, J., Wei, H., Hou, D., & Lin, X. (2023). Genome-wide analysis, characterization, expression and function of SERK gene family in *Phyllostachys edulis*. *Forests*, *14*(3), 540. <https://doi.org/10.3390/f14030540>
- Zhang, X., & Liu, C.-J. (2015). Multifaceted regulations of gateway enzyme *phenylalanine ammonia-lyase* in the biosynthesis of phenylpropanoids. *Molecular Plant*, *8*(1), 17–27. <https://doi.org/10.1016/j.molp.2014.11.001>
- Zhou, Q., Li, Y., Wang, X., Yan, C., Ma, C., Liu, J., & Dong, S. (2022). Effects of different drought degrees on physiological characteristics and endogenous hormones of soybean. *Plants*, *11*(17), 2282. <https://doi.org/10.3390/plants11172282>

