

DAFTAR PUSTAKA

- Ahadiyah, I. S., S. Suhartono, A. Amzeri, dan A. S. Umam. 2025. Seleksi galur jagung tahan terhadap cekaman kekeringan menggunakan peg 6000 pada fase perkecambahan. *Rekayasa*. 18(1):95–106.
- Ahmad, I., A. Mian, dan F. J. M. Maathuis. 2016. Overexpression of the rice akt1 potassium channel affects potassium nutrition and rice drought tolerance. *Journal of Experimental Botany*. 67(9):2689–2698.
- Alam, A. U., H. Ullah, S. K. Himanshu, R. Tisarum, S. Cha-um, dan A. Datta. 2023. Seed priming enhances germination and morphological, physio-biochemical, and yield traits of cucumber under water-deficit stress. *Journal of Soil Science and Plant Nutrition*. 23:3961–3978.
- Albasavat, L., A. Hasan, E. ÖZTÜRK, dan İ. SEZER. 2023. Effects of seed size and peg induced osmotic stress on germination and seedling growth in grain sorghum. *ISPEC Journal of Agricultural Sciences*. 7(2):407-422TY-JOUR AU-Indira, M.N. AU-Angeline,.
- Andayani, R. D. dan A. D. Rosanti. 2023. Seed priming application to increase sorghum vigor and viability of sorghum bicolor. *Agrovigor: Jurnal Agroekoteknologi*. 16(1):35–39.
- Andayani, R. D., A. D. Rosanti, P. S. Agroteknologi, F. Pertanian, U. I. Kadiri, P. S. Kimia, F. Pertanian, U. I. Kadiri, S. Priming, A. Panas, S. Priming, dan D. Viabilitas. 2023. Aplikasi seed priming untuk meningkatkan vigor dan viabilitas benih sorgum (sorghum bicolor l .). 16(1):35–39.
- Basavaraja, B. dan B. N. Nagaraj Hullur and Radha. 2023. Influence of different concentrations of spirulina platensis extract on seed germination and seedling vigor of various crops. *Annals of Plant and Soil Research*. 25(3):455–460.
- Bewley, J. D., K. Bradford, H. Hilhorst, dan H. Nonogaki. 2013. *Seeds: Physiology of Development, Germination and Dormancy*. New York: Springer.
- Bradford, K. J. 2017. *Water Relations in Seed Germination*. Dalam Seed Development and Germination. Routledge.
- Budiyanti, T., N. L. P. Indriyani, R. Riska, R. Kirana, I. Suliansyah, dan D. Hervani.

2024. Cekaman polyethylene glycol 6000 (peg 6000) terhadap perkecambahan 24 genotipe cabai lokal (*capsicum annum* l.) dari sumatera barat. *Jurnal Sains Agro*. 9(1):11–16.
- Bulgari, R., G. Franzoni, dan A. Ferrante. 2019. Biostimulants application in horticultural crops under abiotic stress conditions. *Agronomy*. 9(6):306.
- Burhan, H. W., Y. M. Mewo, dan Y. A. Assa. 2021. Efek antioksidan dari c-fikosianin pada spirulina. *EBiomedik*. 9(1)
- Čanak, P., M. Mirosavljević, M. Ćirić, J. Kešelj, B. Vujošević, D. Stanisavljević, dan B. Mitrović. 2016. Effect of seed priming on seed vigor and early seedling growth in maize under optimal and suboptimal temperature conditions. *Selekcija i Semenarstvo*. 22(1):17–25.
- Chiaiese, P., G. Corrado, G. Colla, M. C. Kyriacou, dan Y. Rouphael. 2018. Renewable sources of plant biostimulation: microalgae as a sustainable means to improve crop performance. *Frontiers in Plant Science*. 9:1782.
- Davidson-Willis, M., G. Wen, B. Samanfar, dan R. Khanal. 2024. Barley seed germination and seedling growth responses to polyethylene glycol (peg)-induced drought stress. *International Journal of Plant Biology*. 15(4):1353–1359.
- Elnajar, M., H. Aldesuquy, M. Abdelmoteleb, dan E. Eltanahy. 2024. Mitigating drought stress in wheat plants (*triticum aestivum* l.) through grain priming in aqueous extract of spirulina platensis. *BMC Plant Biology*. 24:233.
- Farooq, M., N. Gogoi, S. Barthakur, B. Baroowa, N. Bharadwaj, S. S. Alghamdi, dan K. H. M. Siddique. 2017. Drought stress in grain legumes during reproduction and grain filling. *Journal of Agronomy and Crop Science*. 203(2):81–102.
- Ferreira, A., C. R. V Bastos, C. Marques-dos-Santos, F. G. Acién-Fernandez, dan L. Gouveia. 2023. Algaeculture for agriculture: from past to future. *Frontiers in Agronomy*. 5:1064041.
- Finch-Savage, W. E. dan G. W. Bassel. 2016. Seed vigour and crop establishment: extending performance beyond adaptation. *Journal of Experimental Botany*. 67(3):567–573.

- Folck, A. J., C. A. Bigelow, Y. Jiang, dan A. J. Patton. 2023. Genotypic variation in germination rate, seedling vigor, and seed phenotype of kentucky bluegrass cultivars. *Crop Science*. 63(5):3065–3078.
- Garcia-Gonzalez, J. dan M. Sommerfeld. 2016. Biofertilizer and biostimulant properties of the microalga *acutodesmus dimorphus*. *Journal of Applied Phycology*. 28(2):1051–1061.
- Gaxiola-Calvo, C. J., D. Fimbres-Olivarría, R. I. González-Vega, Y. I. Cornejo-Ramírez, A. T. Bernal-Mercado, S. Ruiz-Cruz, J. de J. Ornelas-Paz, M. Á. Robles-García, J. R. Ramos-Enríquez, dan C. L. Del-Toro-Sánchez. 2026. Antioxidant and erythroprotective effects of c-phycocyanin from the cyanobacterium *spirulina* sp. in attenuating oxidative stress induced by peroxy radicals. *Molecules*. 31(1):169.
- Gr, S., R. K. Yadav, A. Chatrath, M. Gerard, K. Tripathi, V. Govindsamy, dan G. Abraham. 2021. Perspectives on the potential application of cyanobacteria in the alleviation of drought and salinity stress in crop plants. *Journal of Applied Phycology*. 33(6):3761–3778.
- Halimursyadah, H., J. Jumini, dan M. Muthiah. 2015. Penggunaan organik priming dan periode inkubasi untuk invigorasi benih cabai merah (*capsicum annum* l.) kadaluarsa pada stadia perkecambahan. *Jurnal Floratek*. 10(2):78–86.
- Hasanuzzaman, M., M. H. M. B. Bhuyan, T. I. Anee, K. Parvin, K. Nahar, J. Al Mahmud, dan M. Fujita. 2019. Regulation of ascorbate-glutathione pathway in mitigating oxidative damage in plants under abiotic stress. *Antioxidants*. 8(9):384.
- Hasanuzzaman, M., K. Nahar, dan M. Fujita. 2013. Extreme temperature responses, oxidative stress and. *Abiotic Stress: Plant Responses and Applications in Agriculture*. 169.
- Indira, M. N., A. R. Angeline, K. Ankit, dan S. Vaishnavi. 2025. Impact of osmotic stress on seed germination and seedling growth in chickpea (*cicer arietinum* l.). *Agricultural Science Digest*
- ISTA Rules. 2020. Pengujian daya berkecambah berdasarkan ista rules 2020. *Balai Besar Pengembangan Pengujian Mutu Benih Tanaman Pangan Dan*

Hortikultura. 1–44.

- Jatana, B. S., S. Grover, H. Ram, dan G. S. Baath. 2024. Seed priming: molecular and physiological mechanisms underlying biotic and abiotic stress tolerance. *Agronomy*. 14(12):2901.
- Kalaimohan, S., D. K. Verma, A. Kumar, N. Kumar, D. Ramamoorthy, dan K. R. Kanak. 2022. Antioxidant and phytonutrient activities of spirulina platensis Kaya, M. D., G. Okçu, M. Atak, Y. Çıkılı, dan Ö. Kolsarıcı. 2006. Seed treatments to overcome salt and drought stress during germination in sunflower (*helianthus annuus* l.). *European Journal of Agronomy*. 24(4):291–295.
- Kesmayanti, N. 2024. Toleransi kekeringan sawi hijau pada osmopriming benih dan interval pemberian air sampai kapasitas lapang drought tolerance of green mustard in seed osmopriming and watering intervals to field capacity. 20(1):64–71.
- Kurniawan, A., W. D. Noviandi, N. I. Maulidah, I. A. Mullatif, D. T. Rahmandhias, M. F. Karim, dan D. J. H. Shyu. 2025. Mitigating drought stress effects in tomato through seed priming and foliar application of salicylic acid: impacts on germination and plant growth. *Journal of Ecological Engineering*. 26(4)
- Kylyshbayeva, G., N. Bishimbayeva, S. Jatayev, S. Eliby, dan Y. Shavrukov. 2024. Polyethylene glycol (peg) application triggers plant dehydration but does not accurately simulate drought. *Plants*. 14(1):92.
- Lismayanti, L., M. Suryaman, dan S. Suhardjadinata. 2024. RESPON perkecambahan dan pertumbuhan vegetatif kedelai varietas anjasmoro dengan pemberian plant growth promoting rhizobacteria pada cekaman kekeringan. *Media Pertanian*. 9(2):93–106.
- Ma, L., J. Wei, G. Han, X. Sun, dan X. Yang. 2024. Seed osmopriming with polyethylene glycol (peg) enhances seed germination and seedling physiological traits of coronilla varia l. under water stress. *PLoS One*. 19(5):e0303145.
- Marthandan, V., R. Geetha, K. Kumutha, V. G. Renganathan, A. Karthikeyan, dan J. Ramalingam. 2020. Seed priming: a feasible strategy to enhance drought tolerance in crop plants. *International Journal of Molecular Sciences*.

21(21):8258.

- Megasari, R. 2025. Respon Fisiologis Beberapa Varietas Padi Lokal Gorontalo Terhadap Cekaman Kekeringan Yang Disimulasikan Dengan PEG-6000 Pada Fase Perkecambahan. *Prosiding Seminar Nasional Pembangunan Dan Pendidikan Vokasi Pertanian*. 6(1). 2025. 1068–1081.
- ÖZKAN, Ş. S. dan K. LEVENT. 2025. The influence of peg-induced drought stress on seed germination and seedling growth traits of tetraploid annual ryegrass cultivars. *ISPEC Journal of Agricultural Sciences*. 9(1):177–189.
- Paparella, S., S. de S. Araújo, G. Rossi, M. Wijayasinghe, D. Carbonera, dan A. Balestrazzi. 2015. Seed priming: state of the art and new perspectives. *Plant Cell Reports*. 34(8):1281–1293.
- Parmar, P., R. Kumar, Y. Neha, dan V. Srivatsan. 2023. Microalgae as next generation plant growth additives: functions, applications, challenges and circular bioeconomy based solutions. *Frontiers in Plant Science*. 14(March):1–37.
- Pompelli, M. F., A. Jarma-Orozco, dan L. A. Rodriguez-Páez. 2023. Imbibition and germination of seeds with economic and ecological interest: physical and biochemical factors involved. *Sustainability*. 15(6):5394.
- Pratiwi, I. W., F. A. Rahmawati, K. Samtani, N. Atuilah, R. A. Hidayatullah, N. A. Alfiah, E. D. I. Wilujeng, D. C. Anindita, M. H. A. Shidiqi, dan M. R. Adnan. 2025. Vigor enhancement of tomato (*solanum lycopersicum*) using spirulina platensis as seed priming agent. *Biota: Jurnal Ilmiah Ilmu-Ilmu Hayati*. 148–160.
- Putri, U. D., V. Vauzia, M. Chatri, dan D. Handayani. 2025. Morphological characteristics of cucumber (*cucumis sativus* l.) leaves under different environmental conditions. *Jurnal Biologi Tropis*. 25(2)
- Qi, Y., L. Ma, M. I. Ghani, Q. Peng, R. Fan, X. Hu, dan X. Chen. 2023. Effects of drought stress induced by hypertonic polyethylene glycol (peg-6000) on *passiflora edulis* sims physiological properties. *Plants*. 12(12):2296.
- Rahmawati, F. A., I. W. Pratiwi, K. Samtani, N. Atuillah, R. A. Hidayatullah, N. Ermawati, R. A. Sya'ban, L. Kurniasari, dan M. R. Adnan. 2025. The potential

- of spirulina platensis biostimulan as a seed priming agent to enhance the vigor and viability of cucumber seeds (*cucumis sativus*). *Biology, Medicine, & Natural Product Chemistry*. 14(1):129–141.
- Rhaman, M. S. 2025. Seed priming before the sprout: revisiting an established technique for stress-resilient germination. *Seeds*. 4(3):29.
- Rhaman, M. S., S. Imran, F. Rauf, M. Khatun, C. C. Baskin, Y. Murata, dan M. Hasanuzzaman. 2020. Seed priming with phytohormones: an effective approach for the mitigation of abiotic stress. *Plants*. 10(1):37.
- Ronga, D., E. Biazzi, K. Parati, D. Carminati, E. Carminati, dan A. Tava. 2019. Microalgal biostimulants and biofertilisers in crop productions. *Agronomy*. 9(4):192.
- Rosyad, A. dan A. Qadir. 2022. Pengembangan metode uji vigor benih cabai merah (*capsicum annuum* l.) pada beberapa potensial air. *Jurnal Agronida*. 8(2):50–59.
- Rouphael, Y. dan G. Colla. 2020. Biostimulants in Agriculture. *Frontiers in plant science*. 2020.
- Rumahorbo, A. S. R. dan A. Bintoro. 2020. Pengaruh pematangan masa dormansi melalui perendaman air dengan stratifikasi suhu terhadap perkecambahan benih aren (*arenga pinnata*)(the effect of dormancy breakdown through water immersion with temperature stratification on the germination of sugar palm s. *Jurnal Sylva Lestari*. 8(1):77–84.
- Sabagh, A. E. L., A. Hossain, C. Barutçular, M. S. Islam, D. Ratnasekera, N. Kumar, R. S. Meena, H. S. Gharib, H. Saneoka, dan J. A. T. Da Silva. 2019. Drought and salinity stress management for higher and sustainable canola (*“brassica napus”* l.) production: a critical review. *Australian Journal of Crop Science*. 13(1):88–96.
- Samtani, K., F. A. Rahmawati, I. W. Pratiwi, N. Atuillah, R. A. Hidayatullah, D. F. Sabiku, M. Azizah, H. Prasetyo, S. Suwardi, dan N. B. E. Sulistyono. 2025. Seed vigor improvement of red chili seeds (*capsicum annuum* l.) using spirulina platensis as seed priming agent. *Agroteknika*. 8(2):213–230.
- Sativa, N., R. M. Baharzyah, H. H. Nafi’ah, R. Fajarfika, dan A. Y. Rismayanti.

2022. Pengaruh berbagai konsentrasi peg (polyethylene glycol) 6000 dan lama perendaman terhadap vigor benih jintan hitam (*nigella sativa*). *JAGROS: Jurnal Agroteknologi Dan Sains (Journal of Agrotechnology Science)*. 6(2):125–133.
- Shao, H., H. Wang, dan X. Tang. 2015. NAC transcription factors in plant multiple abiotic stress responses: progress and prospects. *Frontiers in Plant Science*. 6:902.
- Shedeed, Z. A., S. Gheda, S. Elsanadily, K. Alharbi, dan M. E. H. Osman. 2022. *Spirulina platensis* biofertilization for enhancing growth, photosynthetic capacity and yield of *lupinus luteus*. *Agriculture*. 12(6):781.
- Statistik, B. P. 2024. Produksi Tanaman Sayuran Dan Buah-Buahan Semusim Menurut Provinsi Dan Jenis Tanaman, 2024. Jakarta. 2024.
- Tamindžić, G., S. Vlajić, V. Popović, D. Miljaković, D. Jovičić, D. Milošević, dan M. Ignjatov. 2025. Effect of peg-induced drought stress on seed germination and initial growth of three cucumber cultivars. *Zbornik Matice Srpske Za Prirodne Nauke*. 148:71–81.
- Thinh, N. Q. 2021. Influences of seed priming with *spirulina platensis* extract on seed quality properties in black gram (*vigna mungo* l.). *Vietnam Journal of Science, Technology and Engineering*. 63(1):36–41.
- Trivandy, M., N. Nganggo, D. Indradewa, S. Nurul, dan R. Irwan. 2025. Seed priming boosted waxy corn yield across different water regimes. 53(April):141–149.
- Wang, X., H. Sun, X. Lian, J. Feng, J. Zhao, Y. Wang, dan Y. Liu. 2024. Physiological and biochemical characteristics of cucumber seedlings under different levels of drought stress (peg 6000 concentrations). *HortScience*. 51(3)