DAFTAR PUSTAKA

Alfiah LN, Zul D, Nelvia. 2016. Pengaruh inokulasi campuran isolat bakteri pelarut fosfat indigenus Riau terhadap pertumbuhan dan produksi tanaman kedelai (*Glycine max* L. Merr). Jurnal Agroteknologi. 7(1):7–14.

Alikhani HA, Saleh-Rastin N, Antoun H. 2006. Phosphate solubilization activity of rhizobia native to Iranian soils. Plant and Soil. 287(1–2):35–41. doi:10.1007/s11104-006-9059-6.

Alori ET, Glick BR, Babalola OO. 2017. Microbial phosphorus solubilization and its potential for use in sustainable agriculture. Frontiers in Microbiology. 8:971. doi:10.3389/fmicb.2017.00971.

Anandyawati, Anwar S, Nugroho B, Widyastuti R, Sabiham S. 2017. Study of root exudate organic acids and microbial population in the rhizosphere of oil palm seedling. Journal of Tropical Soils. 22(1):29–36. doi:10.5400/jts.2017.v22i1.29-36.

Antasari. 2025. Ketahui 22 manfaat fosfor bagi tanaman, mempercepat pembentukan akar kuat! Antasari E-Jurnal. Tersedia pada: https://jurnal.iain-antasari.ac.id/ketahui-22-manfaat-fosfor-bagi-tanaman-mempercepat-pembentukan-akar-kuat-antasari-e-jurnal. [diakses 25 Okt 2024].

Astriani M, Zubaidah S, Abadi AL, Suarsini E. 2020. Isolation and identification of phosphate solubilizing bacteria from indigenous microorganisms (IMO) of cow rumen in East Java, Indonesia as eco-friendly biofertilizer. Malaysian Journal of Microbiology. 16(4):253–260. doi:10.21161/mjm.190536.

Basu A, Prasad P, Das SN, Armaza S, Sahu PK, Sahu S, Singh JJ, Singh LS, Kumar A. 2021. Plant growth-promoting rhizobacteria (PGPR) as biofertilizers and biopesticides: phytostimulation and biocontrol. Sustainability. 13(6):3311. doi:10.3390/su13063311.

Behera S, Singha K, Mohanty S. 2017. Isolation and characterization of phosphate solubilizing bacteria from acid soils of Eastern India. Journal of Basic Microbiology. 57(11):939–947.

Brady NC, Weil RR. 2017. *The Nature and Properties of Soils*. Ed ke-15. New York (US): Pearson.

Chen YP, Rekha PD, Arun AB, Shen FT, Lai WA, Young CC. 2006. Phosphate solubilizing bacteria from subtropical soil and their tricalcium phosphate solubilizing abilities. Applied Soil Ecology. 34(1):33–41. doi:10.1016/j.apsoil.2005.12.002.

Chung YR, Lee JE, Aslam Z, Chung EJ, Lee KH, Kang BH, Khan A, Niraula S, Chang WS. 2025. Unusual morphological changes of a novel wrinkled bacterium isolated from the rice rhizosphere under nutrient stress. Life. 15(9):1337. doi:10.3390/life15091337.

Deepa K, Karthikeyan AS, Kumar S. 2010. Phosphate solubilizing microorganisms and their role in sustainable agriculture. Journal of Soil Science and Plant Nutrition. 10(3):293–306.

Dewi RP, Widiastuti L. 2017. Uji potensi bakteri dan jamur pelarut fosfat dalam meningkatkan jumlah P tersedia pada tanah sulfat masam. AgriPeat. 18(1):27–35.

Elfiati D, Delvian, Hanum H, Susilowati A, Rachmat HH. 2021. Potential of phosphate solubilizing fungi isolated from peat soils as inoculant biofertilizer. Biodiversitas. 22(6):3042–3048. doi:10.13057/biodiv/d220605.

Eni E. 2022. Aktivitas bakteriosin bakteri asam laktat yang diisolasi dari limbah cair tempe dalam menghambat bakteri *Bacillus subtilis* dan *Pseudomonas aeruginosa* [disertasi]. Malang: Universitas Islam Negeri Maulana Malik Ibrahim.

Fitriatin BN, Yuniarti A, Mulyani O, Fauziah FS, Tiara MD. 2009. Pengaruh mikroba pelarut fosfat dan pupuk P terhadap P tersedia, aktivitas fosfatase, P tanaman dan hasil padi gogo (*Oryza sativa* L.) pada Ultisol. Agrikultura. 20(3):210–215. doi:10.24198/agrikultura.v20i3.961.

Fitriatin A, Sofyan ET, Irwan AW. 2017. Pemanfaatan bakteri pelarut fosfat untuk meningkatkan ketersediaan P pada tanah Ultisol. Jurnal Ilmu Tanah dan Lingkungan. 19(2):118–124.

Fitriatin T, Santosa D, Joy B. 2021. Biofertilizer technology to increase nutrient availability in palm oil plantations. Journal of Soil Science and Agroclimatology. 18(1):110–118.

Geraldi A, Salsabella DT, Tyautari I, Sadikin RA, Setiawan R, Abdillah Y, Wibowo AT. 2025. Isolation and characterization of halotolerant bacteria from Indonesian sand dunes ecosystem and their plant growth-promoting properties. Journal of the Saudi Society of Agricultural Sciences. 24(7):49. doi:10.1007/s44447-025-00055-2.

Goldstein AH. 2007. Future trends in research on microbial phosphate solubilization: one hundred years of insolubility. Di dalam: Velázquez E, Rodríguez-Barrueco C, editor. *First International Meeting on Microbial Phosphate Solubilization*. Dordrecht (NL): Springer. hlm 91–96.

Gupta G, Parihar M, Ahirwar NK, Tarar JL, Sahu M. 2018. Isolation and characterization of phosphate solubilizing bacteria from rhizosphere of medicinal plants. International Journal of Current Microbiology and Applied Sciences. 7(1):1629–1643.

Gyaneshwar P, Kumar GN, Parekh LJ, Poole PS. 2002. Role of soil microorganisms in improving P nutrition of plants. Plant and Soil. 245(1):83–93. doi:10.1023/A:1020663916259.

Henri, Utami R, Astuti W. 2020. Identifikasi dan kelimpahan bakteri pelarut fosfat dari rizosfer tanaman di lahan pasca tambang timah. Jurnal Agrosainstek. 4(2):98–105.

Herlambang HI. 2024. Isolasi dan uji potensi bakteri pelarut fosfat dari rizosfer tanaman kopi robusta (*Coffea robusta*) [skripsi]. Yogyakarta: Institut Pertanian Stiper Yogyakarta.

Hidayat A, Mulyani S. 2021. Efisiensi pemupukan P dan K pada tanaman jagung (*Zea mays* L.) di Alfisols. Jurnal Tanah dan Sumberdaya Lahan. 8(1):245–253. doi:10.21776/ub.jtsl.2021.008.01.28.

Ilham M, Darmayasa IBG, Nurjaya IGMO, Kawuri R. 2014. Isolasi dan identifikasi bakteri pelarut fosfat potensial pada tanah konvensional dan tanah organik. Simbiosis: Journal of Biological Sciences. 2(1):115–125.

Islamiati A. 2015. Isolasi dan karakterisasi *Azotobacter* dari tanah rizosfer tanaman cabai (*Capsicum annuum* L.) sebagai agen pelarut fosfat dan penambat nitrogen [skripsi]. Makassar: Universitas Islam Negeri Alauddin Makassar.

Jindo K, Audette Y, Olivares FL, Canellas LP, Smith DS, Voroney RP. 2023. Biotic and abiotic effects of soil organic matter on the phytoavailable phosphorus in soils: a review. Chemical and Biological Technologies in Agriculture. 10:29. doi:10.1186/s40538-023-00401-y.

Joosten H, Clarke D. 2022. *Wise Use of Mires and Peatlands*. Wageningen (NL): International Mire Conservation Group dan International Peat Society.

Kalayu G. 2019. Phosphate solubilizing microorganisms: promising approach as biofertilizers. International Journal of Agronomy. 2019:4917256. doi:10.1155/2019/4917256.

Kasno A. 2019. Strategi pengelolaan nilai retensi fosfat untuk meningkatkan efisiensi pupuk P pada tanah masam. Jurnal Sumberdaya Lahan. 13(1):27–38. doi:10.21082/jsl.v13n1.2019.27-38.

Khan AA, Jilani G, Akhtar MS, Naqvi SMS, Rasheed M. 2009. Phosphorus solubilizing bacteria: occurrence, mechanisms and their role in crop production. Journal of Agricultural and Biological Science. 1(1):48–58.

Kunarso A, Bonner MT, Blanch EW, Grover S. 2022. Differences in tropical peat soil physical and chemical properties under different land uses: a systematic review and meta-analysis. Journal of Soil Science and Plant Nutrition. 22(4):4063–4083.

Larasati ED, Rukmi MI, Kusdiyantini E, Ginting RCB. 2018. Isolasi dan identifikasi bakteri pelarut fosfat dari tanah gambut. Bioma: Berkala Ilmiah Biologi. 20(1):1–8. doi:10.14710/bioma.20.1.1-8.

Larasati ED, Ginting RCB, Rukmi MI, Kusdiyantini E. 2024. Keragaman mikroorganisme fungsional pada lahan gambut Kalimantan dalam meningkatkan ketersediaan hara. Jurnal Tanah dan Iklim. 48(1):12–25. doi:10.21082/jti.v48n1.2024.12-25.

Leiva-Mora M, Mera Guzmán PE, Mera-Andrade RI, Zabala Haro AM, Saa LR, Loján P, Portal O. 2026. Isolation and characterization of phosphate-solubilizing rhizobacteria from *Solanum tuberosum* with plant growth-promoting activity. Applied Microbiology. 6(1):8.

Malik M, Rizvi A. 2017. Analyzing the efficacy of phosphate solubilizing microorganisms by enrichment culture techniques. Journal of Agricultural Sciences.

Maramis AY, Asri MT. 2022. Uji aktivitas antibakteri hand sanitizer ekstrak daun salam (*Syzygium polyanthum*) terhadap pertumbuhan bakteri *Staphylococcus epidermidis*. LenteraBio. 11(3):554–561.

Marista E, Khotimah S, Linda R. 2013. Bakteri pelarut fosfat hasil isolasi dari tiga jenis tanah rizosfer tanaman pisang nipah (*Musa paradisiaca* var. nipah) di Kota Singkawang. Protobiont. 2(2).

Mengesha AS, Legesse NH. 2024. Isolation and characterization of phosphate solubilizing bacteria from the rhizosphere of lentil (*Lens culinaris* M.) collected from Hagere Mariam district, Central Ethiopia. PLoS ONE. 19(11):e0308915.

Mukamto, Ulfah S, Mahalina W, Syauqi A, Istiqfaroh L, Trimulyono G. 2015. Isolasi dan karakterisasi *Bacillus* sp. pelarut fosfat dari rhizosfer tanaman Leguminosae. Jurnal Sains dan Matematika. 3(2):62–68.

Nuryanti S, Fitriana AR, Pratiwi. 2021. Karakterisasi isolat bakteri penghasil selulosa dari buah naga merah (*Hylocereus polyrhizus*). As-Syifaa Jurnal Farmasi. 13(1):71–79.

Oksana, Irfan M, Fianiray AR, Zam SI. 2020. Isolasi dan identifikasi bakteri pelarut fosfat pada tanah Ultisol di Kecamatan Rumbai, Pekanbaru. Agrotechnology Research Journal. 4(1):22–25. doi:10.20961/agrotechresj.v4i1.39641.

Palawe JF, Antahari J. 2018. TPC (Total Plate Count), WAC (Water Adsorption Capacity) abon ikan selar dan cooking loss daging ikan selar (*Selaroides leptolepis*). Jurnal Ilmiah Tindalung. 4(2):57–60.

Pambudi A, Susanti S, Priambodo TW. 2017. Isolasi dan karakterisasi bakteri tanah sawah di Desa Sukawali dan Desa Belimbing, Kabupaten Tangerang. Journal of Biology. 10(2):105–113.

Panhwar QA, Othman R, Rahman ZA, et al. 2014. Biological fertilization of rice by phosphate solubilizing bacteria. Applied Soil Ecology. 73:79–86.

Pang F, Li Q, Solanki MK, Wang Z, Xing YX, Dong DF. 2024. Soil phosphorus transformation and plant uptake driven by phosphate-solubilizing microorganisms. Frontiers in Microbiology. 15:1383813.

Paul D, Sinha SN. 2017. Isolation and characterization of phosphate solubilizing bacterium *Pseudomonas aeruginosa* KUPSB12 with antibacterial potential from river Ganga, India. Annals of Agrarian Science. 15(1):130–136. doi:10.1016/j.aasci.2016.10.001.

Persat A, Nadell CD, Kim MK, Ingremeau F, Siryaporn A, Drescher K, Stone HA. 2015. The mechanical world of bacteria. Cell. 161(5):988–997.

Pradhan M, Das R, Sahoo R, Adak T, Pradhan C, Mohanty S. 2022. Comparative P solubilizing efficiencies of five acid soil bacteria incubated with calcium, aluminium and iron phosphates. Indian Journal of Biochemistry and Biophysics. 59:947–955.

Purwanti D, Setyaningsih R, Susilowati A. 2019. Isolation and identification of phosphate solubilizing bacteria from the rhizosphere of rice in organic and non-organic rice fields in Sukoharjo District, Indonesia. Bonorowo Wetlands. 9:108–115.

Putri DA, Putra GM, Sahana LAA, Nirmalasari I. 2025. Unveiling the BPF9 isolate as a potential of phosphate-solubilizing bacteria through in vitro characterization. Acta Solum. 3(3):125–133.

Putri JD, Sumardi, Farisi S, Agustrina R. 2024. Isolasi dan karakterisasi bakteri pelarut fosfat dari rhizosfer pisang Cavendish (*Musa acuminata* L.). Jurnal Ilmiah Biologi UMA. 6(2):103–119.

Putri TS, Handayani K, Farisi S, Irawan B. 2024. Isolasi dan karakterisasi bakteri pelarut fosfat rhizosfer tanaman nanas (*Ananas comosus* L. Merr) di Lampung Tengah. Di dalam: Prosiding Seminar Nasional Penelitian LPPM UMJ. Jakarta (ID): Universitas Muhammadiyah Jakarta.

Raghothama KG, Karthikeyan AS. 2015. Phosphate acquisition: regulatory networks and molecular mechanisms. Journal of Plant Biology. 32(4):430–438.

Rahmayuni E, Ismiani S, Muslimah DH, Wilujeng EDI, Rizqulloh MN. 2018. Karakterisasi dan viabilitas isolat bakteri pelarut fosfat dalam bahan pembawa kompos dan zeolit. Jurnal Agrosains dan Teknologi. 3(1):31–38.

Rashid M, Khalil S, Ayub N, Alam S, Latif F. 2004. Organic acids production and phosphate solubilization by phosphate solubilizing microorganisms (PSM) under *in vitro* conditions. Pakistan Journal of Biological Sciences. 7(2):187–196. doi:10.3923/PJBS.2004.187.196.

Restorasi Ekosistem Riau. 2018. Panduan singkat mengenal tanah gambut. Tersedia pada: https://www.rekoforest.org/id/program/restorasi-ekosistem-riau-milestones/. [diakses 25 Okt 2024].

Richardson AE, Barea JM. 2011. Microbial solubilization of inorganic phosphate. Di dalam: Barea JM, editor. *Plant-Microbe Interactions*. Berlin (DE): Springer. hlm 145–168.

Ristiawan H, Purbaya K, Astuti R. 2021. Peran strategis kelapa sawit Indonesia dalam perspektif keberlanjutan global. Jurnal Agroteknologi. 15(2):110–125.

Saeid A, Prochownik E, Dobrowolska-Iwanek J. 2018. Phosphorus solubilization by *Bacillus* species. Molecules. 23(11):2897.

Sen A, Saha N, Sarkar A, Poddar R, Pramanik K, Samanta A. 2024. Assessing the effectiveness of indigenous phosphate-solubilizing bacteria in mitigating phosphorus fixation in acid soils. 3 Biotech. 14(9):197.

Sharma SB, Sayyed RZ, Trivedi MH, Gobi TA. 2013. Phosphate solubilizing microbes: sustainable approach for managing phosphorus deficiency in agricultural soils. SpringerPlus. 2:587. doi:10.1186/2193-1801-2-587.

Simanjuntak D, Handayani S, Purwanto BH. 2022. Phosphate fixation and efficiency of P fertilization in acid soils of North Sumatra. Indonesian Journal of Agricultural Science. 23(2):40–48.

Siregar AM, Sembiring M. 2021. Peran mikroba pelarut fosfat dalam meningkatkan ketersediaan P pada tanah masam perkebunan kelapa sawit. Jurnal Agroteknologi Tropika.

Soewandita H. 2018. Kajian pengelolaan tata air dan produktivitas sawit di lahan gambut (studi kasus: lahan gambut perkebunan sawit PT Jalin Vaneo di Kabupaten Kayong Utara, Provinsi Kalimantan Barat). Jurnal Sains dan Teknologi Modifikasi Cuaca. 19(1):41–50.

Suleman M, Yasmin S, Rasul M, Yahya M, Atta BM, Mirza MS. 2018. Phosphate solubilizing bacteria with glucose dehydrogenase gene for phosphorus uptake and beneficial effects on wheat. PLoS ONE. 13(9):e0204408.

Susanti BP, Yuliani AE, Hidayatullah AF, Sutrisno S. 2024. Activity test of catalase enzyme in rhizospheric soil bacteria. Bioeksperimen. 10(1):70–78.

Taniwan S, Suryanto D, Nurwahyuni I. 2016. Isolasi dan karakterisasi parsial bakteri pelarut fosfat dari guano Gua Kampret dan uji kemampuannya dalam meningkatkan pertumbuhan tanaman. Jurnal Biosains. 2(2):82–90.

Ulfiyati N, Zulaika E. 2015. Isolat *Bacillus* pelarut fosfat dari Kalimas Surabaya. Jurnal Sains dan Seni ITS. 4:6–8.

Vassilev N, Vassileva M, Fenice I. 2016. Microbial solubilization of rock phosphate: a review. Applied Soil Ecology. 33(2):177–186.

Wahyudi A, Junaedi A, Sopandie D. 2020. Screening and characterization of phosphate-solubilizing bacteria from tropical peatlands in Riau. Journal of Tropical Biology and Conservation. 12(3):25–34.

Wahyuni S, Noviani N, Habibie D. 2025. Isolasi dan uji bakteri pelarut fosfat dalam meningkatkan pertumbuhan tanaman jagung. BEST Journal (Biology Education, Sains and Technology). 8(1):1187–1193.

Wu Y, Li G, Wang Y, Chen C. 2018. Isolation and characterization of phosphate-solubilizing bacteria from high organic matter soil. Soil Biology and Biochemistry. 55(2):123–130.

Yadav AN, Sharma D, Gulati S, Singh S, Dey R, Pal KK, Saxena AK. 2015. Haloarchaea endowed with phosphorus solubilization attribute implicated in phosphorus cycle. Scientific Reports. 5(1):12293.

Yulitaasary AT, Asyiah IN, Iqbal M. 2017. Isolasi dan identifikasi rizobakteri dari tanaman kopi robusta (*Coffea canephora*) yang terserang *Pratylenchus coffeae*. Jurnal Saintifika. 19(2):1–12.