DAFTAR PUSTAKA

Ardiatma, D., Ilyas, N. I., Halomoan, N., & Indriyani, Y. M. (2026). *Pemanfaatan limbah plastik PS (polystyrene) jenis styrofoam menjadi paving block dengan campuran silica fume sebagai upaya reduksi sampah plastik*. Jurnal Sains & Teknologi Lingkungan.

Brandon, A. M., Gao, S. H., Tian, R., Ning, D., Yang, S. S., Zhou, J., Wu, W. M., & Criddle, C. S. (2020). Biodegradation of polystyrene plastic by the gut microbiota of Tenebrio molitor. Environmental Science & Technology, 54(17), 10997–11006.

Badan Standardisasi Nasional. (2004). Spesifikasi kompos dari sampah organik domestik. *Badan Standardisasi Nasional*, 12

Campanale, C., Savino, I., Massarelli, C., & Uricchio, V. F. (2023). *Fourier Transform Infrared Spectroscopy to Assess the Degree of Alteration of Artificially Aged and Environmentally Weathered Microplastics*. *Polymers*, 15(4), 911.

Cassone, B. J., Grove, H. C., Elebute, O., Villanueva, S. M. P., & LeMoine, C. M. R. (2020). Role of the intestinal microbiome in low-density polyethylene degradation by caterpillar larvae of the greater wax moth, Galleria mellonella. Proceedings of the Royal Society B, 287(1922), 20200112.

Coates, J. (2006). Interpretation of Infrared Spectra, A Practical Approach. In R. A. Meyers (Ed.), Encyclopedia of Analytical Chemistry. John Wiley & Sons.

Dillon, R. J., & Dillon, V. M. (2020). The gut microbiota of insects: Nonpathogenic interactions. Annual Review of Entomology, 65, 95–113.

Guo, J., Gao, S., Cao, R., & Yang, S. (2022). Recent advances in insect-mediated plastic biodegradation. Science of the Total Environment, 818, 151722.

Houben, D., Daoulas, G., Faucon, M. P., & Dulaurent, A. M. (2020). Potential use of mealworm frass as a fertilizer: Impact on crop growth and soil properties. *Scientific Reports*, *10*(1), 1–9

Jiang, S., Su, T., Zhao, J., & Wang, Z. (2021). Biodegradation of polystyrene by tenebrio molitor, galleria mellonella, and zophobas atratus larvae and comparison of their degradation effects. *Polymers*, *13*(20).

Kementerian Lingkungan Hidup dan Kehutanan. (2025). Komposisi sampah berdasarkan jenis sampah Kota Surabaya tahun 2025. Sistem Informasi Pengelolaan Sampah Nasional (SIPSN). https://sipsn.menlhk.go.id

Kandouw, C. S. E., Mangangka, I. R., & Mandagi, A. T. (2025). *Analisis emisi gas rumah kaca dari sektor sampah menggunakan metode IPCC di Kecamatan Wanea, Kota Manado.* TEKNO, 23(91).

Karkanis, A., Rumbos, C. I., & Ntatsi, G. (2024). Organic amendments and nutrient cycling effects on plant biomass production. *Bioresource Technology*, 389, 129873.

Karanam, K., Okoffo, E. D., Shukla, P., Thomas, K. V., & Rudolph, V. (2024). *Preparation of polystyrene microplastic particles by solvent-dissolution-precipitation*. Sustainable Chemistry for the Environment, 7, 100144.

Kim, H. R., Lee, H. M., Yu, H. C., Jeon, E., Lee, S., Li, J., & Kim, D. H. (2023). Current progress and challenges in insect-based plastic biodegradation. Bioresource Technology, 367, 128269.

Kurniani, R., Ruyani, A., Johan, H., Defianti, A., Yani, A. P., & Listiono, A. E. (2025). *Biodegradation of styrofoam waste by Hongkong mealworms (Tenebrio molitor). BIOLINK (Jurnal Biologi Lingkungan Industri Kesehatan)*, 12(1), 78–89

Lalander, C., et al. (2020). Waste-to-protein conversion using insect bioconversion systems. Journal of Cleaner Production.

Lestari, S. C., & Halimatussadiah, A. (2026). *Kebijakan pengelolaan sampah nasional: Analisis pendorong food waste di tingkat rumah tangga*. Jurnal Good Governance.

Li, X., Chen, Y., & Liu, H. (2021). Functional and physicochemical properties of soybean lecithin and its applications. Food Chemistry, 337, 127984.

Matyakubov, B., & Lee, Y. (2024). Optimizing polystyrene degradation, microbial community and metabolite analysis of intestinal flora of yellow mealworms. Bioresource Technology.

Menino, R., Felizes, F., & Fareleira, P. (2023). Agronomic value of organic soil amendments including insect-derived compost materials. *Italian Journal of Agronomy*, 18(1), 2105

Nakatani, H., Yamaura, Y., Mizuno, Y., Motokucho, S., Dao, A. T. N., & Nakahara, H. (2024). Biodegradation Mechanism of Polystyrene by Mealworms (Tenebrio molitor) and Nutrients Influencing Their Growth. Polymers, 16(12), 1632.

Nandiyanto, A. B. D., Oktiani, R., & Ragadhita, R. (2019). *How to Read and Interpret FTIR Spectroscope of Organic Material*. Indonesian Journal of Science and Technology, 4(1), 97–118.

Nandiyanto, A. B. D., Ragadhita, R., & Fiandini, M. (2023). *Interpretation of Fourier Transform Infrared Spectra (FTIR): A Practical Approach in the Polymer/Plastic Thermal Decomposition*. Indonesian Journal of Science and Technology, 8(1), 113–126.

OECD. (2022). *Global Plastics Outlook: Economic Drivers, Environmental Impacts and Policy Options.* OECD Publishing.

Putra, I. R. (2022). Laju Degradasi Beberapa Jenis Paper Pulp Menggunakan Ulat Hongkong (Tenebrio Molitor L.) di Laboratorium. Jurnal Riset Sains dan Teknologi, 5(2), 101-109.

Peng, B.Y., Su, Y., Chen, Z., Chen, J., Zhou, X., Benbow, M.E., Criddle, C.S., & Wu, W.M. (2019). Biodegradation of polystyrene by dark mealworms and role of gut microorganisms. *Environmental Science & Technology*, 53(9), 5256–5265.

Peng, B. Y., Su, Y., Chen, Z., Chen, J., Zhou, X., Benbow, M. E., & Criddle, C. S. (2021). Biodegradation of polystyrene by Tenebrio molitor, Zophobas atratus, and associated gut microbiota. Chemosphere, 282, 131006.

Peng, B. Y., et al. (2022). Influence of Molecular Weight on Polystyrene Biodegradation by Mealworms. Journal of Hazardous Materials.

Rahmatan, G. (2024). *Kajian kebiasaan food waste konsumen dan potensi pemanfaatannya pada usaha rumah makan di Jalan Kaliurang, Yogyakarta* (Tesis). Universitas Gadjah Mada.

Sari, S. A., Yenie, E., & Muria, S. R. (2024). *Pengaruh komposisi nutrisi terhadap laju biodegradasi styrofoam menggunakan ulat hongkong (Larva Tenebrio molitor)*. *Jurnal Online Mahasiswa (JOM) Bidang Teknik dan Sains*.

Stuart, B. (2004). Infrared Spectroscopy: Fundamentals and Applications. Chichester: John Wiley & Sons.

Subchan, W., Rohman, A., Prihatin, J., Salma, F. U., Halimah, R. N., Jannah, A. W., & Rosita, R. (2024). Degradation and digestion of polypropylene, polyethylene, and styrofoam by *Tenebrio molitor* L. (Coleoptera, Tenebrionoidae) larvae. *Makara Journal of Science*, 28(4), 296–307.

Syahrulawal, L., et al. (2023). *Improving the nutritional values of yellow mealworm (Tenebrio molitor) by dietary supplementation: effects on gut microbes and digestibility*. Journal of Animal Science and Biotechnology

Van Huis, A. (2021). Prospects of insects as food and feed. Annual Review of Entomology, 66, 1–19.

Wee, W., et al. (2023). The roles of soybean lecithin in aquafeed: A crucial need and update. Frontiers in Veterinary Science, 10, 1188659.

Wu, G. (2020). Amino acids: Metabolism, functions, and nutrition. Amino Acids, 52, 1187–1200.

Wu, W.M., Criddle, C.S., & Yang, Y. (2020). Microplastics biodegradation and microbial community interactions in insects. *Current Opinion in Biotechnology*, 64, 138–146.

Xu, L., Li, Z., Wang, L., Xu, Z., Zhang, S., & Zhang, Q. (2024). Progress in polystyrene biodegradation by insect gut microbiota. World Journal of Microbiology and Biotechnology, 40(5), 143.

Yang, Y., Yang, J., Wu, W.M., Zhao, J., Song, Y., Gao, L., Yang, R., & Jiang, L. (2015). Biodegradation and mineralization of polystyrene by plastic-eating mealworms. *Environmental Science & Technology*, 49(20), 12080–12086.

Yang, Y., Yang, J., Wu, W. M., Zhao, J., Song, Y., Gao, L., Yang, R., & Jiang, L. (2020). Biodegradation and mineralization of polystyrene by plastic-eating mealworms: Part 2. Role of gut microorganisms. Journal of Hazardous Materials, 380, 120902.

Zhang, Y., Liu, X., & Chen, H. (2024). Amino acid metabolism and its regulation in insects: Recent advances and implications for nutritional strategies. *Frontiers in Physiology, 15*, 1287456.