

## Daftar Pustaka

- Abarenkov, K. 2022. *Metarhizium rileyi* (Farl.) Kepler, Rehner & Humber, 2014 in UNITE Community. UNITE – Unified system for the DNA based fungal species linked to the classification. doi: <https://doi.org/10.15468/mkpcy3>.
- Assefa, F. and Ayalew, D. 2019. *Status and Control Measures of Fall Armyworm (Spodoptera frugiperda) Infestations in Maize Fields in Ethiopia: A review*. Cogent Food & Agriculture.
- Badan Standar Nasional (BSN). 2014. *Agens Pengendali Hayati (APH) – Bagian 2: Metarhizium anisopliae*. Jakarta: Gd. Manggala Wanabakti.
- Barros, S.K.A., Pitta, R.M., Lopes, R.B., Almeida, E.G., Ferreira, F.T.R. 2020. *Susceptibility of Spodoptera frugiperda and Chrysodeixis includens (Lepidoptera: Noctuidae) to infections caused by Metarhizium rileyi*. *Pesq. Agropec. Trop.* 50: 1-7.
- Bhavani, B., Chandra, S.V., Kishore, V.P., Bhartha, L.M., Jamuna, P., Swapna, B. 2019. Morphological and molecular identification of an invasive insect pest, fall army worm, *Spodoptera frugiperda* occurring on sugarcane in Andhra Pradesh, India. *Journal of Entomology and Zoology Studies* 7(4).
- Bhusal, K. and Bhattarai, K. 2019. A review on fall armyworm (*Spodoptera frugiperda*) and its possible management options in Nepal. *Journal of Entomology and Zoology Studies* 7(4).
- Day, R., Abrahams, P., Bateman, M., Beale, T., Clottey, V., Cock, V., et al., 2017. *Fall Armyworm: Impacts and Implications for Africa*. CABI: Oxfordshire, University of Exeter (UK).
- Deole, S. and Paul, N. 2018. First report of fall army worm, *Spodoptera frugiperda* (J. E. Smith), their nature of damage and biology on maize crop at Raipur, Chhattisgarh. *Journal of Entomology and Zoology Studies*.
- Dong, H., Zhu, K., Zhao, Q., Bai, X., Zhou, J., Zhang, L. (2021). Morphological defence of the egg Mass of *Spodoptera frugiperda* (Lepidoptera: Noctuidae) affects parasitic capacity and alters behaviors of egg parasitoid wasps. *Journal of Asia-Pacific Entomology* 24(6). doi:10.1016/j.aspen.2021.05.015.
- Feldman, F., Rieckmann, U., Winter, S. 2018. *The Spread of the Fall Armyworm Spodoptera frugiperda in Africa*. German: University of Hohenheim.
- Food and Agriculture Organization (FAO). and CABI. 2019. Community-Based Fall Armyworm (*Spodoptera frugiperda*) Monitoring, Early Warning and Management. *Training of Trainers Manual, First Edition*. 112 pp.
- Gabriel, B.P. and Riyanto. 1989. *Metarhizium anisopliae Taksonomi, Patologi, Produksi dan Aplikainya*. Proyek Pengembangan Perlindungan Tanaman Perkebunan. Jakarta: Departemen Pertanian. 25 hlm.

- Garcia, A.G., Claudia, P.F., Wesley, A.C.G., Robert, L.M. 2018. A computational model to predict the population dynamics of *Spodoptera frugiperda*. *Journal of pest Science*.
- Hastuti, D., Tubagus, B.R., Djameludin N.H. 2017. Pengaruh Lama Penyimpanan Cendawan *Metharizium anisopliae* terhadap Mortalitas Ulat Grayak (*Spodoptera litura f.*) di Laboratorium. *Jurnal Agroekotek* 9(1):17-27.
- Hutagalung, R.P.S., Sitepu, S.F., Marheni. (2021). Biologi Fall Armyworm (*Spodoptera frugiperda* J. E. Smith) (Lepidoptera: Noctuidae) di Laboratorium. *Jurnal Pertanian Tropik*. 8(1). 1-10. DOI: 10.32734/jpt.v8i1.5584.
- Kementerian Pertanian. 2019. *Pengenalan Fall Armyworm (Spodoptera frugiperda J. E. Smith) Hama Baru pada Tanaman Jagung di Indonesia*. Jakarta: Balai Penelitian Tanaman Serealia.
- Maharani, Y., Dewi, V., Puspasari, L., Rizkie, L., Hidayat, Y., Dono, D. 2019. Cases of fall army worm *Spodoptera frugiperda* J. E. Smith (Lepidoptera: Noctuidae) attack on maize in Bandung, Garut and Sumedang District, West Java. *Jurnal Cropsaver* 2(1): 38-46.
- Masyitah, I., Sitepu, S.F., Safni, I. 2017. Potensi Cendawan Entomopatogen untuk mengendalikan Ulat Grayak *Spodoptera litura F.* pada Tanaman Tembakau In Vivo. *Jurnal Argoetnologi FP USU*. 5(3): 484-493.
- Minarni, E.W.N., Dina, I. 2021. *Efektivitas Cendawan Entomopatogen Indigenous Dalam Mengendalikan Hama Spodoptera frugiperda Pada Tanaman Jagung*. Purwokerto: Prosiding Seminar Nasional dan Call for Papers.
- Montecalvo, M.P., and Marcela, M.N. 2021. *Metarhizium (=Nomuraea) rileyi* (Farlow) Samson from *Spodoptera exigua* (Hübner) Cross Infects Fall Armyworm, *Spodoptera frugiperda* (J.E. Smith) (Lepidoptera: Noctuidae) Larvae. *Philippine Journal of Science* 150(1), 193-199. doi: ISSN 0031 – 7683.
- Montecalvo, M.P., Navasero, M.M., Navasero, M.V. 2022. Lethal effect of native *Metarhizium rileyi* (Farlow) Samson isolate to invasive fall armyworm, *Spodoptera frugiperda* (J.E.Smith), infesting corn in the Philippines. *International Journal of Agricultural Technology* 18(1): 257-270.
- Mullo, I.A., Parluhutan, S., Lalu, W. 2022. Uji Patogenisitas Cendawan *Metarhizium rileyi* (Farlow) Isolat Tomohon Terhadap Larva Ulat Grayak *Spodoptera frugiperda* (Lepidoptera: Noctuidae). *Jurnal Bios Logos* 12(1), 31-38. doi: <https://doi.org/10.35799/jbl.v12i1.35828> E-ISSN: 2656-3282 P-ISSN: 2088-9569.
- Nonci, N., Kalqutny, S. H., Mirsam, H., Muis, A., Azrai, M., Aqil, M. 2019. *Pengenalan Fall Armyworm (Spodoptera frugiperda J.E. Smith) Hama Baru Pada Tanaman Jagung Di Indonesia*. Maros: Balai Penelitian Tanaman Serealia.
- Nuraida. and Aisyah, L. 2016. Pengaruh Formulasi dan Lama Penyimpanan pada Viabilitas, Bioaktivitas dan Persistensi Cendawan *Metarhizium Anisopliae* terhadap

*Crocodolomia Pavonana* Fabricius. *Jurnal HPT Tropika* 16(2), 196-202. doi: ISSN 1411-7525

- Nurnina, N., Hary, S.K., Hishar, M., Amran, M., Muhammad, A., Aqil, M. 2019. *Pengenalan Fall Armyworm (Spodoptera frugiperda J.E. Smith Hama Baru pada Tanaman Jagung di Indonesia*. Maros: Kementerian Pertanian Badan penelitian dan Pengembangan Pertanian Balai penelitian Tanaman Serelia Maros.
- Painkra, G.B. Bhagat, P.K., Gupta, S.P., Sinha, S.K., Thakur, D.K., Lakra, A. 2019. A survey on fall armyworm, *Spodoptera frugiperda* (Lepidoptera: Noctuidae, J.E. Smith) in maize crop in northern hill zone of Chhattisgarh. *Journal of Entomology and Zoology Studies* 7(6).
- Pereira, E.D.A., Eduardo, D.N.R. 2021. Desenvolvimento do fungo entomopatogenico *Metarhizium rileyi* como agente microbiona para o manejo das principais especies de lepidopteros nas culturas de soja e algodao: uma revisao. *Brazilian Journal of Development* 7(5): 49283-49288.
- Prayogo. 2006. Upaya Mempertahankan Keefektifan Cendawan Entomopatogen untuk Mengendalikan Hama Tanaman Pangan. Malang: Balai Penelitian Tanaman Kacang-kacangan dan Umbi-umbian (Online). [8 Agustus 2011].
- Rodriguez-del-bosque, L.A., Cantú-almaguer, M.A., Reyes-méndez, C.A., 2012. Corn hybrids and planting dates affect yield losses by *Helicoverpa zea* and *Spodoptera frugiperda* (Lepidoptera: Noctuidae) feeding on ears in Mexico. *J. Entomol. Sci.* 47 (2), 177–184. doi: 10.18474/0749-8004-47.2.177.
- Schlemmer, M. 2018. *Effect of Temperature on Development and Reproduction of Spodoptera frugiperda (Lepidoptera: Noctuidae)*. Disertasi, North-west University.
- Sharanabasappa, C. K., Maruti, M., Pavithra, H. 2018. Biology of Invasive Fall Army Worm *Spodoptera frugiperda* (J.E. Smith) (Lepidoptera: Noctuidae) On Maize. *Indian Journal of Entomology* 80(3): 540-543.
- Siahaan, P., Indry, M. 2021. Isolasi dan Identifikasi Cendawan Entomopatogen Isolat Tomohon dari Larva Ulat Grayak *Spodoptera frugiperda* (Lepidoptera: Noctuidae). *Journal Of Biotechnology And Conservation In Wallacea* 1(1), 10-16. doi: <https://doi.org/10.35799/jbcw.v1i1.35791>.
- Silva, D.M., Adeney, F.B., Karine, A., Cristiane, S.S., Pedro, M.O., Janeiro, N., Maria, C.N.O. 2017. Biology and Nutrition of *Spodoptera frugiperda* (Lepidoptera: Noctuidae) fed on Different Food Sources. *Journal Scientia Agricola* 74( 1).
- Sisodiya, D.B., Raghuanandan, B.L., Bhatt, N.A., Verma, H.S., Shewale, C.P., Timbadiya, B.G. et al., 2018. The fall armyworm, *Spodoptera frugiperda* (J. E. Smith) (Lepidoptera: Noctuidae); First Report of New Invasive Pest in Maize Fields of Gujarat, India. *Journal of Entomology and Zoology Studies* 6(5).
- Sitinjak, E.S., 2018. Uji Efektivitas Cendawan Entomopatogenik *Metarhizium anisopliae* dan *Beauveria bassiana* terhadap Mortalitas Larva Kumbang Tanduk (*Oryctes rhinoceros*) Pada Chipping Batang Kelapa Sawit. Skripsi, Universitas Medan Area, Medan, Indonesia.

- Soenandar, M., A, M.,Raharjo, A. 2010. *Petunjuk Praktis Membuat Pestisida Organik*. Jakarta Selatan: PT. Agro Media Pustaka.
- Sopialena. 2018. *Pengendalian hayati dengan Memberdayakan Potensi Mikroba*. Samarinda: Mulawarman University Press.
- Sun, X.X., Hu, C.X., Jia, H.R., Wu, Q.L., Shen, X.J., Zhao, S.Y., et al., 2021. Case study on the first immigration of fall armyworm, *Spodoptera frugiperda* invading into China. *Journal Integr. Agric.* 20 (3), 664–672. doi: 10.1016/S2095-3119(19)62839-X.
- Suwahyono, Untung. 2013. *Cara Membuat dan Petunjuk Penggunaan Biopestisida*. Jakarta: Penebar Swadaya.
- Tendeng, E., Babacar, L., Mamadou, D., Saliou, D., Karamoko, D. 2019. The fall Armyworm *Spodoptera frugiperda* (J. E. Smith), A New Pest of Maize in Africa: Biology and First Native Natural Enemies Detected. *Internasional Journal of Biolocal and Chemical Sciences* 13(2).
- Trisyono, Y., Suputa, V.A., Hartaman, M ., Jumari. 2019. Occurrence of heavy infestation by the fall armyworm *Spodoptera frugiperda*, a new alien invasive pest, in corn in Lampung Indonesia. *Jurnal Perlindungan Tanaman Indonesia* 23(1): 156-160.