

DAFTAR PUSTAKA

- [BBPOPT] Balai Besar Peramalan Organisme Pengganggu Tumbuhan. 2019. “Pengenalan dan Pengelolaan Hama Invasif Ulat Grayak *Spodoptera frugiperda*”,<http://ditlin.tanamanpangan.pertanian.go.id/assets/front/uploads/document/MATERI%20BBPOPT%20FAW.pdf>, diakses pada 15 Juni 2021 pukul 11.03 WIB.
- [EPPO] European and Mediterranean Plant Protection Organization. 2004. Data Sheets on Quarantine Pests – *Spodoptera littoralis* and *Spodoptera litura*.http://www.eppo.org/QUARANTINE/insects/Spodoptera_litura/PROD_LI_ds.pdf
- [FAO dan CABI] *Food and Agriculture Organization*, CABI. 2019. Community-Based Fall Armyworm (*Spodoptera frugiperda*) Monitoring, Early Warning and Management. Training of Trainers Manual, First Edition. 112 pp.
- [FAO] *Food and Agriculture Organization*. 2018. FAO Briefing note on FAO actions on Fall Armyworm. FAO, December 2018
- [Kementerian] Kementerian Pertanian. 2019. Pengenalan *Fall Armyworm* (*Spodoptera frugiperda* (J.E. Smith) (lepidoptera: noctuidae), Hama baru pada Tanaman Jagung di Indonesia. Jakarta (ID): Balai Penelitian Tanaman Pangan (64)
- Ali, A., Luttrell, R. G., and Pitre, H. N. 1990. “Feeding sites and distribution of fall armyworm (Lepidoptera: Noctuidae) larvae on cotton” dalam jurnal Environmental Entomology volume 19(hlm.1060-1067).
- Begon, M dan Mortiner, M. 1981. *Population Ecology: A Unified Study of Animals and Plants*. Sunderland: Sinauer Associated Inc. Publisher.
- Bellows, Jr TS., Van Driesche,. and Elkinton JS. 1992. *Life-table construction in the evaluation of natural enemies*. Annu. Rev. Entomol. 37: 587–612.
- Brewer, R. 1979. Principles of ecology. Philadelphia US. W.B Sounders Co.299 p.
- Bueno, R. C. O. F., Bueno, A. F., Moscardi, F., Parra, J. R., and Hoffmann-Campo, C. B. (2011). Lepidopteran larvae consumption of soybean foliage: basis for developing multiple-species economic thresholds for pest management decisions. Pest Management Science, 67, 170–174
- Buntin, G. D., J. N. All, R. D. Lee, and D. M. Wilson. 2004. “Plantincorporated *Bacillus thuringiensis* resistance for control of fall armyworm and corn earworm (Lepidoptera: Noctuidae) in corn” dalam J. Econ. Entomol. 97 (hlm. 1603–1611).
- CABI. 2019. “*Spodoptera frugiperda* (Fall Armyworm)”, <https://www.cabi.org/ISC/fallarmyworm>, diakses pada 30 Januari 2019 pukul 09.33 WIB.
- Capinera, JL. 2017. *Fall Armyworm, Spodoptera frugiperda* (J.E Smith) (Insecta: Lepidoptera: Noctuidae). IFAS Extension, University of Florida.
- Carey, JR. 1993. *Applied demography for biologist with special emphasis on insect*. New York: Oxford University Press. p 11-41.
- Casmuz, A., Juarez, M.L., Socias, M.G., Murua, M.G., Prieto, S., Medina, S., Willink, and E., Gastaminza, G. 2010. “Revision de los hospederos del gusano

- cogollero del maiz *Spodoptera frugiperda* (Lepidoptera: Noctuidae)" dalam Revista de la Socie-dad Entomologica Argentina volume 69 (hlm. 209-231).
- Chilcutt, C. F., G. N. Odvody, J. C. Correa, and J. Remmers. 2007. "Effects of Bacillus thuringiensis transgenic corn on corn earworm and fall armyworm (Lepidoptera: Noctuidae) densities" dalam J. Econ. Entomol. 100 (hlm. 327–334).
- Clark, P.L., Molina-Ochoa, J., Martinelli, S., Skoda, S.R., Isenhour, D.J., Lee, D.J., Krumm, J.T., and Foster, J.E. 2007. "Population variation of *Spodoptera frugiperda* (J. E. Smith) in the Western Hemisphere" dalam Journal of Insect Science volume 7 (hlm. 1-10).
- Cui, Juan., Shi-yu Zhu., Rui Bi., Wei Xu., Yu Gao, dan Shu sen shi. 2018. Effect of Temperature on the Development, Survival, and Fecundity of *Heliothis viresplaca* (Lepidoptera: Noctuidae). China:Journal of Economic Entomology 111(4).
- Day, R., Abrahams, P., Bateman, M., Beale, T., Clottey, V., Cock, M., Colmenarez, Y., Corniani, N., Day, R., Early, R., Godwin, J., Gomez, J., Moreno, P. G., Murphy, S. T., Oppong-Mensah, B., Phiri, N., Pratt, C., Silvestri, S., and Witt, A. (2017). Fall armyworm: impacts and implications for Africa. Outlooks on Pest Management, 28(5), 196–201. https://doi.org/10.1564/v28_oct_02
- Deole S dan Nandita Paul. 2018. "First report of fall army worm, *Spodoptera frugiperda* (J.E. Smith), their nature of damage and biology on maize crop at Raipur, Chhattisgarh" dalam Journal of Entomology and Zoology Studies 2018 volume 6(6) (hlm. 219-221).
- Farias, P.R.S., J. C. Barbosa, A. C. Busoli, W. L. Overal, V. S. Miranda, and S. M. Ribeiro. 2008. "Spatial analysis of the distribution of *Spodoptera frugiperda* (J. E. Smith) (Lepidoptera: Noctuidae) and losses in maize crop productivity using geostatistics". Neotrop. Entomol. 37 (hlm. 321–327).
- Figueiredo MLC, Martins-Dias AMP, and Cruz I. 2006. Relação entre a lagarta do cartucho e seus agentes de controle biológico natural na produção de milho. Pesq Agropec Bras. 41(12):1693–1698.
- Garcia, A. G., Godoy, W. A. C., Thomas, J. M. G., Nagoshi, R.N., and Meagher, R.L. (2017). Delimiting strategic zones for the development of fall armyworm (Lepidoptera: Noctuidae) on Corn in the State of Florida. Journal of Economic Entomology, 111(1), 120–126. <https://doi.org/10.1093/jee/tox329>
- Gilligan, TM dan Passoa, SC. 2014. "LepIntercept, An Identification Resource for Intercepted Lepidoptera Larvae", www.lepintercept.org diakses pada 30 Januari 2019 pukul 11.11 WIB
- Goergen, G., Kumar, P.L, Sankung, S.B, Togola, and A. Tamo, M. 2016. "First response of outbreaks of the fall armyworm *Spodoptera frugiperda* J.E. Smith (Lepidoptera: noctuidae), a new alien invasive pest in west and central Africa" dalam plos one, 11(hlm. 10).
- Hardke, J. T., B. R. Leonard, F. Huang, and R. E. Jackson. 2011. "Damage and survivorship of fall armyworm (Lepidoptera: Noctuidae) on transgenic field corn expressing *Bacillus thuringiensis* Cry proteins" dalam Crop Prot. 30 (hlm.168–172).

- Hardke, J.T.,Gus M.L., dan B. Rogers L. 2015. "Fall Armyworm (Lepidoptera: Noctuidae) Ecology in Southeastern Cotton" dalam Journal of Integrated Pest Management volume 6 nomor 1 (hlm.10). Stuttgart: JIPM.
- Hutagalung, Rade Putra S. 2020. *Biologi Fall Armyworm Spodoptera frugiperda (Lepidoptera: Noctuidae) di Laboratorium*. Medan : Universitas Sumatera Utara
- Hutasoit, Rudi T., Septian Hary K, dan I Nyoman W. 2020. "Spatial distribution pattern, bionomic, and demographic parameters of a new invasive species of fall armyworm *Spodoptera frugiperda* (Lepidoptera: Noctuidae) in maize of south sumatera, Indonesia" dalam jurnal Biodiversitas volume 21 nomor 8 (hlm. 3576-3582).
- Jason, WC., Trevor, W., Ana, E., Primitivo, C., Ronald, DC., and Dave, G. 2001. "Age related cannibalism and horizontal transmission of a nuclear polyhedrosis virus in larval *Spodoptera frugiperda*" dalam Ecological Entomology. 2001; 24(3) (hlm.268-275).
- Krebs, Charles J. 1972. *Ecology, the experimental analyses of distribution and abundance*. Harper Internatl. Edition. Harper & Row Publisher, New York, San Fransisco, London. 694 pp.
- Kurniawan H. A. 2007. *Neraca kehidupan kutu kebul, Bemisa tabaci Gennadius (Hemiptera : Aleyrodidae) Biotipe-B dan Non-B pada tanaman mentimun (Curcumis sativus L.) dan cabai (Capsicum annum L.)*. Tesis. Bogor: Institut Pertanian Bogor.
- Lewter, J.A.,Szalanski, A. L., Nagoshi, R.N., Meagher, R. L.,Jr. Owens, C.B., and Luttrell, R.G. 2006. "Genetic variation within and between strains of the fall armyworm, *Spodoptera frugiperda* (Lepidoptera:Noctuidae)" dalam jurnal Florida Entomologist, 89(1), (hlm. 63-68).
- Lu Yangjiang dan Adang M.J, 1996. "Distinguishing fall armyworm (Lepidoptera; Noctuidae) strains using a diagnostic mitochondrial DNA marker" dalam jurnal Florida Entomologist, 79(1), (hlm. 48-55)
- Luginbill, Philip. 1928. The Fall Army Worm. Washington D.C: United States Department of Agriculture Tech Bulletin 34: 92.
- Maharani, Y.,Vira, and K.D., Lindung. 2019. "Cases of Fall Armyworm armyworm *Spodoptera frugiperda* J.E. Smith (Lepidoptera:noctuidae) Attack on Maize in Bandung, Garut, and Sumedang District, West Java" dalam Jurnal Cropsaver 2019 volume 2(1) (hlm. 38-46). Bandung: Puspromit Padjajaran University.
- Montezano, D.G.,Alexandre, S., Daniel, R.S., Vania, F.R., Silvana, V.P.,Julie, A.P., dan Thomas, E.H. 2019. "Developmental Parameters of *Spodoptera frugiperda* (Lepidoptera: Noctuidae) Immature Stage Under Controlled and Standardized Conditions" dalam Journal of Agriculture Science Volume 11 nomor 8 (hlm. 76-89). USA: Canadian centre of science and education.
- Montezano, D.G.,Specht, A., Sosa-Gomez, D.R., Roque-Specht, V.F., Sousa-Silva, J.C.,Paula-Moraes, S.V.,Peterson, J.A., and Hunt, T.E. 2018. "Host plants of *Spodoptera frugiperda* (Lepidoptera: Noctuidae) in the Americas" dalam jurnal African Entomology volume 26 no 2 (hlm. 286-300).

- Murua, Gabriela dan Eduardo Virla. 2004. "Population Parameters of *Spodoptera frugiperda* (Smith) (Lep: Noctuidae) Fed On Corn and Two Predominant Grases in Tucuman (Argentina)" dalam Acta Zoologica Mexicana 20(1): 199-210
- Nagoshi, R.N., Silvie, P., Meagher, R.L., Lopez, J.,and Machado, V. 2007. "Identification and Comparison of Fall Armyworm (Lepidoptera: Noctuidae) host strains in Brazil, Texas, and Florida" dalam Annals of The Entomological Society of America, 100(3) (hlm.394-402).
- Nagoshi, R.N, and Meagher, R.L. 2004. *Seasonal distribution of fall armyworm (Lepidoptera: Noctuidae) host strains in agricultural and turf grass habitats.* Environmental Entomology 33: 881- 889
- Nonci, Nurnina, Septian HK, Hishar M, Amran M, M Azral, dan M Aqil. 2019. *Pengenalan Fall Armyworm (*Spodoptera frugiperda* J.E Smith) Hama Baru Pada Tanaman Jagung di Indonesia.* Maros: Balai Penelitian Tanaman Serelia.
- Pannuti LER, Baldin ELL, Hunt TE, and Paula-Moraes SV. 2015. On-plant larval movement and feeding behavior of fall armyworm (Lepidoptera: Noctuidae) on reproductive corn stages. Environ. Entomol. 45:192–200
- Pitre, H. N., and Hogg, D. B. (1983). Development of the fall armyworm on cotton, soybean and corn. Journal of the Georgia Entomological Society, 18, 182-187.
- Plessis, H.D., Marie, L.S., dan Johnnie, V.B. 2020. "The Effect of Temperature on the Development of *Spodoptera frugiperda* (Lepidoptera: Noctuidae)" dalam artikel Insects. Switzerland: MDPI.
- Pogue, MG. 2002. *A world revision of the genus Spodoptera (Guenee) (Lepidoptera: Noctuidae).* Memoirs of the American Entomological Society, number 43.
- Price, P.W. 1997. *Insect Ecology 3th edition.* New York: John Wiley & Sons, Inc.
- Price, PW. 1984. *Insect Ecology 2nded.* John Wiley & Sons, New York.
- Quisenberry, S.S. 1991. *Fall armyworm (Lepidoptera: Noctuidae) host strain reproductive compatibility.* Florida Entomologist 74: 194-199.
- Sharanabasappa, Kalleshwaraswamy, C. M., Asokan, R., Mahadeva Swamy, H. M., Maruthi, M. S., Pavithra, H. B., dan Goergen, G. 2018. "First report of the Fall armyworm, *Spodoptera frugiperda* (J. E. Smith) (Lepidoptera: Noctuidae), an alien invasive pest on maize in India" dalam Pest Management in Horticultural Ecosystems volume 24(1) (hlm.23-29).
- Sharanabasappa., CM, Kalleshwaraswamy., MS, Maruthi., and HB, Pavithra. 2018. "Biology of invasive fall army worm *Spodoptera frugiperda* (J.E. Smith) (lepidoptera: noctuidae) on maize" dalam Indian Journal of Entomology, 80(3) (hlm.540-543).
- Singh, P. 1983. "A General Purpose Laboratory Diet Mixture for Rearing Insects" dalam Insect Science and Applications volume 4 (hlm. 357-362).
- Smith, J.E., dan Abbot, J. 1797. *The Natural History Of The Rarer Lepidopterous Insects Of Georgia.* V. 2, Illus: London.
- Southwood, T.R.E. 1978. *Ecology Methode.* New York: Chapman and Hall.
- Sparks, A. N. 1979. A review of the biology of the fall armyworm. Fla. Entomol. 62: 82–87

- Tarumingkeng, RC. 1992. *Dinamika Pertumbuhan Populasi Serangga* . Bogor: Institut Pertanian Bogor.
- Trisyono Y, Suputa, V Aryuwandari, M Hartaman dan 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.
- Untung, K. 1993. *Pengantar Pengelolaan Hama Terpadu*. Yogyakarta: Gadjah Mada University Press.
- Whitford, F., S. S. Quisenberry, T. J. Riley, and J. W. Lee. 1988. Oviposition preference, mating compatibility, and development of two fall armyworm strains. *Fla. Entomol.* 71: 234–243
- Zalucki, Myron P., Anthony R.C., dan Stephen, B.M. 2002. “Ecology and Behavior of First Instar Larval Lepidoptera” dalam Annu. Rev. Entomol volume 47 (361-393). Michigan: Annual Reviews.

