

CHAPTER- VIII

8 REFERENCES

- Ahuja, D. B. and Noor A. (1991). Effect of different host plants on the development of *Spodoptera litura* (Fab.). *J Insect Sci*, 4(1), 176–177.
- Bhalani, P. A. (1989). Suitability of host plants for growth and development of leaf eating caterpillar, *Spodoptera litura* (Fab.). *Indian J Ent*, 51(1), 427–430.
- Matsura, H. and Naito A. (1992). Studies on the cold hardiness and overwintering of *Spodoptera litura* (Fab.) (Lepidoptera: Noctuidae). IV. Daily activity rhythm of larvae in winter. *Jap J Appl Ent Zool*, 36(1), 31–35.
- Abo-El-Ghar, M.R.; Nassar, M.E.; Riskalla, M.R.; Abd-El-Ghafar, S.F. (1986). Rate of development of resistance and pattern of cross-resistance in fenvalerate and decamethrin-resistant strains of *Spodoptera littoralis*. *Agricultural Research Review*, 61(1), 141–145.
- Mathur, AC. (1962). Food plant spectrum of *Diacrisia obliqua*. Wlk. *Indian J. Ent*, 2(2), 4286–4287.
- Ahmed AM, Etman H, H. S. (1979). Developmental and reproductive biology of *Spodoptera litura* (Lepidoptera: Noctuidae). *J. Australian Entomol Soc*, 1(1), 363–412.
- Ahuja, D.B. Noor, A. (1991). Effect of different host plants on the development of *Spodoptera litura* (Fab.). *Journal of Insect Science*, 4(2), 176–177.
- Aitkenhead, P.; Baker, C.R.B; Chickera, G.W.D. de. (1974). An outbreak of *Spodoptera litura*, a new pest under glass in Britain. *Plant Pathology*, 23(1), 117–118.
- Arias MB, Poupin MJ, Lardies MA. (2011). Plasticity of life-cycle, physiological thermal traits and Hsp70 gene expression in an insect along

the ontogeny: Effect of temperature variability. *Journal of Thermal Biology*, 36(1), 355–362.

- Soon Do B. (1999). Leaf characteristics of leguminous plants and the biology of tobacco cutworm *Spodoptera litura* Fabricius I: The larval development and leaf feeding amount. *Korean J Appl Ent*, 38(2), 217–224.
- Singh M K and Prasad B. (2001). Seasonal incidence and biology of chilli pod borer *Spodoptera litura* Fab. (Noctuidae: Lepidoptera) in Manipur. *J Exp Zool*, 4(1), 261–266.
- Bae SD, Park KB. (1999). Effects of temperature and food source on pupal development, adult longevity and oviposition of the tobacco cutworm, *Spodoptera litura* Fab. *Korean. J. Appl. Ent*, 36(1), 48–54.
- Balasubramanian G, Chelliah S and Balasubramanian M. (1984). Effect of host plants on the biology of *Spodoptera litura* (Fab.). *Indian J Agric Sci*, 54(1), 1075–1080.
- Bale J, Masters GJ, Hodkins ID, Awmack C, Bezemer TM, Brown VK, et al. (2002). Herbivory in global climate change research: direct effects of rising temperature on insect herbivores. *Global Change Biol*, 8(1), 1–16.
- Basavaraja H, Chhillar B S and Singh R. (2008). Impact of transgenic Bt cotton on biological parameters of *Spodoptera litura* (Fabricius) (Lepidoptera:Noctuidae). *J Ent Res*, 32(1), 69–73.
- Bownes A, Hill MP, Byrne MJ. (2013). The role of nutrients in the responses of water hyacinth, *Eichhornia crassipes* (Pontederiaceae) to herbivory by a grasshopper *Cornops aquaticum* Brünner (Orthoptera: Acrididae). *Biological Control*, 67(3), 555–562.
- Bragard, C., Dehnen-Schmutz, K., Di Serio, F., Gonthier, P., Jacques, M. A., Jaques Miret, J. A., Justesen, A. F., Magnusson, C. S., Milonas, P., Navas-Cortes, J. A., Parnell, S., Potting, R., Reignault, P. L., Thulke, H. H., Van der Werf, W., Vicent Civera, A., Yuen, J., Zappalà, L., Malumphy, C., ... MacLeod, A. (2019). Pest categorisation of *Spodoptera litura*. *EFSA Journal*, 17(7), 22-54.
- Briere JF, Pracros P, Le Roux AY, Pierre JS. (1999). A novel rate model

of temperature-dependent development for arthropods. *Environ Entomol*, 28(2), 22–29.

- Brown, E.S.; Dewhurst, C.F. (1975). The genus *Spodoptera* in Africa and the Near East. *Of Entomological Research*, 65(1), 221–262.
- Bughio A R, Hussain T, Qureshi Z A, A.M. and S.A.R. (1994). Quantitative studies of food consumption and growth of *Spodoptera litura* (Fab.) on soybean. *Proc Pakistan Congr Zool*, 12(1), 99–104.
- Singh K N and Sachan G C. (1982). Developmental behaviour of *Spodoptera litura* (Fab.) populations with pheromone baited traps at Pantnagar, India. *Indian J Pl Prot*, 8(1), 97–101.
- Campion, D.G.; Hosny, M.M. (1987). Biological, cultural and selective methods for control of cotton pests in Egypt. *Insect Science and Its Application*, 8(1), 803–805.
- Cayrol, R.A. (1972). Famille des Noctuidae. In: *Entomologie appliquée à l'agriculture* (Ed. by Balachowsky, A.S. Masson, Paris, France, 2(1), 1411–1423.
- Chen, S.; Nelson, M. N.; Chèvre, A.- M.; Jenczewski, E.; Li, Z.; Mason, A.; Meng, J.; Plummer, J. A.; Pradhan, A.; Siddique, K. H. M.; Snowdon, R. J.; Yan, G.; Zhou, W. . C.W.A. (2011). Trigenomic bridges for Brassica improvement. *Critical Reviews in Plant Science*, 30(6), 524–547.
- Chen Q J, Yang J Q, Zhang J Z, Z. Y. Z. and C. J. H. (2002). Effect of temperature on laboratory population of *Spodoptera litura* (Fabricius) in tobacco fields. *Tobacco Sci Technol*, 2(1), 42–45.
- Chhibber R C, Pathak P K and Bhattacharya A K. (1985). Consumption and utilization of different food plants by *Spodoptera litura* (Fab.) larvae. *Indian J Ent*, 47(1), 106–110.
- Chockalingam S, Somasundaram P and Goel S C. (1983). Effect of thermal stress on the consumption and utilization of flower of *Zinnia elegans* in the final instar larvae of moth *Spodoptera litura* (Noctuidae). *Insect Ecology and Resource Management*, 1(1), 1–6.
- Chown SL, Sørensen JG, Terblanche JS. (2011). Water loss in insects: An

environmental change perspective. *Journal of Insect Physiology*, 57(8), 1070–1084.

- Coppel HC, M.J. (1977). Biological insect pest suppression. *Springer, Berlin*, 1(1), 327–332.
- Sharma D. (1994). Biology and food preference of tobacco caterpillar, *Spodoptera litura* (Fab.) on five different hosts. *J Ent Res*, 18(1), 151–155.
- Dhir B C, Mohapatra H K and Senapati B. (1992). Assessment of crop loss in groundnut due to tobacco caterpillar, *Spodoptera litura* (Fab.). *Indian J Pl Prot*, 20(1), 215–217.
- Elbadry E A, Abdel-Salam F A, Abo Elghar M R, H. S. M. and A. M. A. (2009). The effect of four different host plants on the larval development of the cotton leaf worm *Spodoptera littoralis* (Bois.). *J Appl Ent*, 68(1), 138–142.
- Fand, B. B., Kamble, A. L., & Kumar, M. (2012). Will climate change pose serious threat to crop pest management: A critical review? *International Journal of Scientific and Research Publications*, 2(11), 1–14.
- Fand, Babasaheb & Sul, Nitin & Bal, Santanu & Minhas, P. (2015). Temperature Impacts the Development and Survival of Common Cutworm (*Spodoptera litura*): Simulation and Visualization of Potential Population Growth in India under Warmer Temperatures through Life Cycle Modelling and Spatial Mapping. *PLOS ONE*, 10(4), 1–25. <https://doi.org/10.1371/journal.pone.0124682>
- Favetti BM, Butnariu AR, F. LA. (2015). Biology and reproductive capacity of *Spodoptera eridania* (Cramer) (Lepidoptera: Noctuidae) in different soybean cultivars. *Revista Brasileira de Entomologia*, 59(1), 89–95.
- Feng H Q, Wu K M, Ni YX, C.D.E. and G.Y.Y. (2005). High altitude windborne transport of *Helicoverpa armigera* (Lepidoptera: Noctuidae) in mid summer in Northern China. *J Insect Behav*, 18(2), 335–349.
- Finlay-Doney M, Walter GH. (2012). Behavioral responses to specific

- prey and host plant species by a generalist predatory coccinellid (*Cryptolaemus montrouzieri* Mulsant). *Biological Control*, 63(3), 270–278.
- Dyar N G. (1890). The number of moults of lepidopterous larvae. *Psyche*, 5(1), 420–422.
 - Singh H N and Byas G. (1975). Larval development of *Prodenia litura* (Fab.) In relation to certain cultivated food plants. *Indian J Ent*, 37(1), 1–6.
 - Thomas S R and Bilapate G G. (2007). Biology of *Spodoptera litura* (Fabricius) on sunflower cultivars. *J Maharashtra Agric Univ*, 32(1), 285–288.
 - Gao C X, Bei Y W, Chen. T. H. and Gu. X. H. (2004). On factors causing outbreak of *Spodoptera litura* (Fabricius). *Acta Agric Zhejiangensis*, 16(1), 332–335.
 - Garad GP, Shivapuje PR, Bilapate GG. (1984). Life fecundity tables of *Spodoptera litura* (F.) on different hosts. *Proc Indian Acad Sci*, 93(2), 29–33.
 - Gargav VP, K. O. (1971). Some new hosts of *Diacrisia* at Raipur (M.P.). *Indian J. Horti*, 24(1), 316–320.
 - Gopalaswamy S V S, Radha Krishna Y and Ramana M V. (2012). Seasonal occurrence of tobacco caterpillar, *Spodoptera litura* in Urdbean under Rice Follows. *Indian J Pl Prot*, 40(1), 64–66.
 - Greenberg SM, Sappington T, Legaspi B, Liu TX, S.M. (2001). Feeding and life history of *Spodoptera exigua* (Lepidoptera: Noctuidae) on different host plants. *Ann. Entomol. Soc*, 94(1), 566–575.
 - Haar, R. J; Iacopino, V; Ranadive, N; Weiser, S. D; Dandu, M. (2017). "Health impacts of chemical irritants used for crowd control: A systematic review of the injuries and deaths caused by tear gas and pepper spray. *BMC Public Health*, 17(1), 831–836.
 - Hachler, M. (1986). Notes on three pests of subtropical ornamental plants captured in western Switzerland. *Schweizerischen Entomologischen*

Gesellschaft, 59(1), 263–266.

- Harrison J, Frazier MR, Henry JR, Kaiser A, Klok CJ, Rascón B. (2006). Responses of terrestrial insects to hypoxia or hyperoxia. *Physiology & Neurobiology*, 154(1), 4–17.
- Hashmat M, Khan MA. (1977). The effect of temperature on the fecundity and fertility of *Spodoptera litura* (Fabr.) (Lepidoptera: Noctuidae). *J Animal Morph Physiol*, 24(1), 203–210.
- Holland JM, Storkey J, Lutman PJW, Birkett TC, Simper J, Aebischer NJ . (2014). Utilisation of agri-environment scheme habitats to enhance invertebrate ecosystem service providers. *Agriculture, Ecosystems & Environment*, 183(1), 103–109.
- Holloway, J. D. (1989). The moths of Borneo: Family Noctuidae, triline subfamilies: Noctuinae, Heliiothinae, Hadeninae, Acronictinae, Amphipyrrinae, Agaristinae. *Malayan Nature Journal*, 42(2), 57–226.
- Honghyun P, KwangHo K, JeongJun K, H. G. and S. L. (2010). Relationship of larval density of tobacco cutworm, *Spodoptera litura* (Lepidoptera:Noctuidae) to damage in greenhouse sweet pepper. *Korean J Appl Ent*, 49(1), 351–355.
- Hooks, Cerruti R.R; Wang, Koon-Hui; Ploeg, Antoon; McSorley, R. (2010). Using marigold (*Tagetes* spp.) as a cover crop to protect crops from plant-parasitic nematodes. *Applied Soil Ecology*, 46(3), 307–320.
- Huang S, Han Z. (2007). Mechanisms for multiple resistances in field populations of common cutworm, *Spodoptera litura* (Fabricius) in China. *Pestic Biochem Physiol*, 87(1), 14–22.
- Hughs, S. E.; Valco, T. D.; Williford, J. R. (2008). "100 Years of Cotton Production, Harvesting, and Ginning Systems. *Transactions of the ASABE*, 51(4), 1187–1198.
- Afifi F M L and Mesbah I I. (1990). Economic Threshold of infestation with the cotton leaf worm, *Spodoptera litura* (Lepidoptera:Noctuidae) in cotton fields in Egypt. I. Food consumption of larva. *Arb J Pl Prot*, 8(1), 96–100.

- Inserra, S.; Calabretta, C. (1985). Attack by noctuids: a recurring problem in greenhouse crops of the Ragusa coast. *Tecnica Agricola*, 37(1), 283–297.
- Jacobsen, E.; Daniel, M. K.; Bergervoet-van Deelen, J. E. M.; Huigen, D. J. & Ramanna, M. S. (1994). The first and second backcross progeny of the intergeneric fusion hybrids of potato and tomato after crossing with potato. *Theoretical and Applied Genetics*, 88(2), 181–186.
- Jakhar, B. L., Singh, N., Venilla, S., Patel, M. H., Vekaria, M. V., Patel, B. D., & Panickar, B. (2016). Influence of climate change on *Helicoverpa armigera* (Hubner) in pigeonpea. *Journal of Agriculture and Ecology*, 2(1), 25–31.
- Jarczyk H, J and Hartle P. (1959). Further investigation on the prepupal and pupal stages and on the emergence of female and male moths. *Z Angew Ent*, 45(1), 94–102.
- Chand N K and Tripathi A K. (2008). Biology of *Spodoptera litura* (Fab.) on different host plants. *Proc Zool Soc*, 7(1), 57–61.
- Miyashita K. (1971). Effects of constant and alternating temperatures on the development of *Spodoptera litura* F. (Lepidoptera: Noctuidae). *Appl Entomol Zool*, 6(1), 105–111.
- Karl I, Stoks R, De Block M, Janowitz SA, F. K. (2011). Temperature extremes and butterfly fitness conflicting evidence from life history and immune function. *Glob Change Biol*, 17(2), 676–687.
- Khaliq, A., Javed, M., Sagheer, M., Sohail, M., Sohail, M., & Sagheer, M. (2014). Environmental effects on insects and their population dynamics. *Journal of Entomology and Zoology Studies JEZS*, 1(22), 1–7.
- Khan, M. M. H., & Talukder, S. (2017). Influence of weather factors on the abundance and population dynamics of *Spodopteralitura* F. and *Pieris brassicae* L. on cabbage. *SAARC Journal of Agriculture*, 15(1), 13–21.
- Kharub R S, Singh H, Rohilla H R and Chopra N P. (1993). Population dynamics and biology of *Spodoptera litura* (Fab.) on groundnut. *Ann Biol*

PAU, 9(2), 257–262.

- Kraft, KH; Brown, CH; Nabhan, GP; Luedeling, E; Luna Ruiz, Jde J; Coppens; d'Eeckenbrugge, G; Hijmans, RJ; Gepts, P. (2013). "Multiple lines of evidence for the origin of domesticated chili pepper, *Capsicum annuum*, in Mexico. *Proceedings of the National Academy of Sciences*, 111(17), 6165–6170.
- Kranthi, K. (2005). Insecticide resistance monitoring, mechanisms and management manual. In *Central Institute for Cotton Research, Nagpur Pp.* [https://doi.org/10.1016/0191-8141\(80\)90002-4](https://doi.org/10.1016/0191-8141(80)90002-4)
- Kumar, A., & Manager, A. (2013). Butterfly (Lepidoptera: Insecta) Diversity From Different Sites of Jhagadia, Ankleshwar, District-Bharuch, Gujarat. *Octa Journal of Environmental Research International Peer-Reviewed Journal Oct. Jour. Env. Res*, 1(1), 9–18. <http://www.sciencebeingjournal.com>
- Kumar D, Singh R and Mahal M S. (1993). Development of *Spodoptera litura* on cotton and colocasia. *Pest Mgmt Econ Zool*, 1(1), 76–79.
- Kwon Y-S, Chung N, Bae M-J, Li F, Chon T-S, P. Y.-S. (2012). Effects of meteorological factors and global warming on rice insect pests in Korea. *Of Asia-Pacific Entomology*, 15(3), 507–515.
- Chelliah S L. (1985). The tobacco cutworm, *Spodoptera litura* problems and prospects of management. *The Tobacco Cutworm, Spodoptera Litura Problems and Prospects of Management*, 1(1), 139–159.
- Lalouette L, Williams CM, Hervant F, Sinclair BJ, R. D. (2011). Metabolic rate and oxidative stress in insects exposed to low temperature thermal fluctuations. *Comparative Biochemistry and Physiology*, 158(1), 229–234.
- Boardman LE. (1977). Insectary culture of *Spodoptera litura* (Lepidoptera: Noctuidae). *New Zealand Entomol*, 6(1), 316–318.
- Lu y, W. K.; Wu, K.; Jiang, Y.; Guo, Y.; Desneux, N. (2012). Widespread adoption of Bt cotton and insecticide decrease promotes biocontrol services. *Nature*, 487(7407), 362–3365.

- Lucas-Barbosa D, van Loon JJA, D. M. (2011). The effects of herbivore-induced plant volatiles on interactions between plants and flower-visiting insects. *Phytochemistry*, 72(13), 1647–16554.
- Mann H S. Sohi A S, Singh J and Sandhu S S. (1995). Biology and control of *Spodoptera litura* (Fab.) on cotton. *J Res Punjab Agric Univ*, 32(1), 375–378.
- Marwoto, S. (2008). Strategy and control technology components of armyworm (*Spodoptera litura* Fabricius) on soybean. *J Agric Res Dev*, 27(4), 131–136.
- McVeigh, L.J.; Bettany, B.W. (1987). The development of lure and kill technique for control of the Egyptian cotton leafworm *Spodoptera littoralis*. *Bulletin SROP*, 10(1), 59–60.
- Miyahara, Y.; Wakikado, T.; Tanaka, A. (1971). Seasonal changes in the number and size of the egg-masses of *Prodenia litura*. *Japanese Journal of Applied Entomology and Zoology*, 15(1), 139–143.
- Mortimer, E.A.; Powell, D.F. (1988). Factors affecting the efficacy of methyl bromide fumigation to control *Liriomyza trifolii* in imported chrysanthemum cuttings. *Annals of Applied Biology*, 112(1), 33–39.
- Moulherat, C.; Tengberg, M.; Haquet, J. R. M. F.; Mille, B. T. (2002). First Evidence of Cotton at Neolithic Mehrgarh, Pakistan: Analysis of Mineralized Fibres from a Copper Bead. *Journal of Archaeological Science*, 29(12), 1393–1401.
- Pandey S N. (1970). *Ecological studies on Prodenia litura* (Fab.) (*Lepidoptera Noctuidae*).
- Nakasuji, F.; Matsuzaki, T. (1977). The control threshold density of the tobacco cutworm *Spodoptera litura* on eggplants and sweet peppers in vinylhouse. *Applied Entomology and Zoology*, 12(1), 184–189.
- Nakasuji, F. (1976). Factors responsible for change in the pest status of the tobacco cutworm *Spodoptera litura*. *Physiology and Ecology Japan*, 17(1), 527–533.
- Nandini, Giraddi R S, Mantur S M, Patil R K, Mallapur C P and Ashalatha

- K V. (2012). Population dynamics and extent of damage of pests of Capsicum under protected cultivation. *Karnataka J Agric Sci*, 25(1), 150–151.
- Narvekar, P. F., Mehendale, S. K., Golvankar, G. M., & Karmarkar, M. S. (2018). *Comparative biology of Spodoptera litura (Fab .) on different host plants under laboratory condition*. 6(6), 65–69.
 - Nasar B A, Moussa M A and Hussain A. (1960). Soil moisture in relation to pupation and moth emergence of cotton leaf worm, Prodenia litura (Fab.) (Lepidoptera: Noctuidae). *Bull Soc Ent Egypte*, 44(1), 372–382.
 - Navarajan P A V, Dass R and Prasad B. (1979). Sex determination of pupae of Heliothis armigera Hubner on gram. *Indian J Ent*, 41(1), 285–286.
 - Navon, A.; Wysoki, M.; Keren, S. (1983). Potency and effect of Bacillus thuringiensis preparations against larvae of Spodoptera littoralis and Boarmia (Ascotis) selenaria. *Phytoparasitica*, 11(1), 3–11.
 - Netherer S, S. A. (2010). Potential effects of climate change on insect herbivores in European forests—General aspects and the pine processionary moth as specific example. *Forest Ecology and Management*, 259(4), 831–838.
 - Nigel RA, Hart RA, Jung M, Hemmings Z, Terblanche JS. (2013). Can temperate insects take the heat? A case study of the physiological and behavioural responses in a common ant, Iridomyrmex purpureus (Formicidae), with potential climate change. *Journal of Insect Physiology*, 59(1), 870–880.
 - Nyamukondiwa C, Weldon CW, Chown SL, le Roux PC, Terblanche JS. (2013). Thermal biology, population fluctuations and implications of temperature extremes for the management of two globally significant insect pests. *Thermal Biology, Population Fluctuations and Implications of Temperature Extremes for the Management of Two Globally Significant Insect Pests*, 59(12), 1199–1211.
 - O'Neill, J; Brock, C; Olesen, A. E.; Andresen, T; Nilsson, M; Dickenson,

- A. H. (2012). "Unravelling the Mystery of Capsaicin: A Tool to Understand and Treat Pain. *Pharmacological Reviews*, 64(4), 939–971.
- Fränzle O. (2003). Chapter 2 Bioindicators and environmental stress assessment. In A. M. B. B.A. Markert & H. G. Zechmeister (Eds.). *Trace Metals and Other Contaminants in the Environment*, Elsevier, 6(1), 41–84.
 - Overgaard J, Sorenson JG. (2008). Rapid thermal adaptation during field temperature variations in *Drosophila melanogaster*. *Cryobiology*, 56(1), 159–162.
 - Kumar S and Ray P. (2007). Biology of *Spodoptera litura* Fabricius (Lepidoptera:Noctuidae) on some of its major weed hosts. *Environment*, 32(1), 287–290.
 - Patnaik H P. (1998). Pheromone trap catches of *Spodoptera litura* F. and extent of damage on hybrid tomato in Orissa. *Advances in IPM for Horticultural Crops*, 12(1), 5–12.
 - Saini S S and Verky O P. (1985). Some observations on occurrence of tobacco caterpillar, *Spodoptera litura* (Fabricius) on groundnut during kharif. *Pl Prot Bull*, 1(1), 31–37.
 - Pachori R and Gargav V P. (1997). Biology and food preference of *Spodoptera litura* Fabricius as seedivore. *Crop Res*, 13(1), 639–643.
 - Waldbauer G P. (1968). The consumption and utilization of food by insects. *Adv Insect Physiol*, 5(1), 229–288.
 - Patel IS, Rote NB, Shah AH, Patel UG, Patel BK. (1986). Biology of cotton leafworm *Spodoptera litura* Fab. (Noctuidae: Lepidoptera) on cotton. *Gujarat Agric Univ Res J*, 11(1), 67–68.
 - Patil R S, Bhole S D and Patil S P. (1991). Studies on biology and chemical control of rice cutworm. *J Maharashtra Agric Univ*, 16(1), 66–68.
 - Peralta, I. E.; Spooner, D. M. (2001). "Granule-bound starch synthase (GBSSI) gene phylogeny of wild tomatoes (*Solanum* L. section *Lycopersicon* (Mill.) Wettst. subsection *Lycopersicon*). *American Journal*

of Botany, 88(10), 1888–1902.

- Powell, D.F.; Gostick, K.G. (1971). Control of *Spodoptera littoralis*, *Myzus persicae* and *Tetranychus urticae* by cold storage and fumigation. *Bulletin of Entomological Research*, 61(1), 235–240.
- Powell AL, Nguyen CV, Hill T, Cheng KL, Figueroa-Balderas R, Aktas H, Ashrafi H, Pons C, Fernández-Muñoz R, Vicente A, Lopez-Baltazar J, Barry CS, Liu Y, Chetelat R, Granell A, Van Deynze A, Giovannoni JJ, B. A. (2012). Uniform ripening Encodes a Golden 2-like Transcription Factor Regulating Tomato Fruit Chloroplast Development. *Science*, 336(6089), 1711–1715.
- Arora R. (1993). Growth and development of *Spodoptera litura* (Fab.) on hirsutum cotton in the Punjab. *Indian J Ecol*, 20(1), 37–42.
- Shukla A and Patel P R. (2011). Biology, food utilization and seasonal incidence of *Spodoptera litura* (Fab.) on Banana cv. Grand Naine. *Res J Agric Sci*, 2(1), 49–51.
- Ramaiah, M., & Maheswari, T. U. (2018). *Biology studies of tobacco caterpillar , Spodoptera litura Fabricius*. 6(5), 2284–2289.
- Rao, CVR., Wightman, J.A., Rao, DVR. (1989). Threshold temperatures and thermal requirements for the development of *Spodoptera litura* (Lepidoptera: Noctuidae). *Environ Entomol*, 18(1), 548–551.
- Rao P, Soralamma G M V and Sudhakar K. (2004). Management of the tobacco leaf eating caterpillar *Spodoptera litura* (Fab.) in cigarette natu tobacco. *Tobacco Res*, 30(1), 1–10.
- Régnière J, Powell J, Bentz B, N. V. (2012). Effects of temperature on development, survival and reproduction of insects: Experimental design, data analysis and modelling. *Journal of Insect Physiology*, 58(5), 634–647.
- Kumar N and Regupathy. (2001). Status of insecticide resistance in tobacco caterpillar *Spodoptera litura* (Fab.) in Tamil Nadu. *Pest Res J*, 13(1), 86–89.
- Reji G, Chander S. (2008). A degree-day simulation model for the

population dynamics of the rice bug, *Leptocorisa acuta* (Thunb.). *J Appl Entomol*, 132(1), 646–653.

- Ruberti I, Sessa G, Ciolfi A, Possenti M, Carabelli M, M., & G. (2012). Plant adaptation to dynamically changing environment: The shade avoidance response. *Biotechnology Advances*, 30(5), 1047–1058.
- S.J. Thanki, J. T. (2014). Status of lean manufacturing practices in Indian industries and government initiatives: A pilot study. *Journal of Manufacturing Technology Management*, 25(5), 655–675.
- Chitra K C and Ramakoteswara R S. (1996). Effect of certain plant extracts on the consumption and utilization of food by *Spodoptera litura* (Fab.). *J Insect Sci*, 9(1), 55–58.
- Rattan L and Nayak G S. (1963). Effect of host plant on the development of caterpillar of *Prodenia litura* (Fab.) and their susceptibility to different insecticides. *Indian J Ent*, 25(1), 299–305.F
- Salama, H.S.; Dimetry, N.Z.; Salem, S.A. (1970). On the host preference and biology of the cotton leaf worm *Spodoptera littoralis*. *Zeitung Für Angewandte Entomologie*, 67(1), 261–266.
- Sanjrani M W S, Munshi G H and Abro G H. (1989). Effects of temperature on the biology of *Spodoptera litura* (Fab.). *Philipp Ent*, 7(1), 573–578.
- Sankarperumal G, Baskaran S and Mohandoss A. (1989). Influence of host plants on the organic constituents and fecundity of *Spodoptera litura* (Fab.) (Lepidoptera: Noctuidae). *Biol Sci*, 55(1), 393–396.
- Sato, S.; Tabata, S.; Hirakawa, H.; Asamizu, E.; Shirasawa, K.; Isobe, S.; Kaneko, T.; Nakamura, Y.; Shibata, D. (2012). "The tomato genome sequence provides insights into fleshy fruit evolution. *Nature*, 485(74), 635–641.
- Sawicki, R.M. (1986). Resistance to synthetic pyrethroids can be countered successfully. *Agribusiness Worldwide*, 8(5), 22–25.
- Schmutterer, H. (1974). Pests of crops in Northeast and Central Africa, pp. 186-188. Gustav Fischer Verlag, Stuttgart, Germany. Shutova, N.N.;

- Cheknonadskikh, V.A. *Zashchita Rastenii*, 4(1), 1–6.
- Seema R, Goel B B and Gupta G P. (2002). Growth and development of *Spodoptera litura* Fabricius on different host plants. *Ann Pl Prot Sci*, 10(2), 216–219.
 - Selvaraj, S., Adiroubane, D., Ramesh, V., & Narayanan, A. L. (2010). *Impact of ecological factors on incidence and development of tobacco cut worm , Spodoptera litura Fabricius on cotton*. 3(August 2007), 43–46.
 - Shahout H A, Xu J X, Yao X M and Jia Q D. (2011). Influence and Mechanism of Different Host Plants on the Growth, Development and, Fecundity of Reproductive System of Common Cutworm *Spodoptera litura* (Fabricius) (Lepidoptera: Noctuidae). *Asian J Agric Sci*, 3(1), 291–300.
 - Shaikh F, Awan M S and Shah A A. (1994). Sexual dimorphism in the pupae and adults of *Spodoptera litura* (Fab.) (Lepidoptera: Noctuidae). *Proc Pakistan Congr Zool*, 12(1), 75–78.
 - Sharma R K and Bisht R S. (2008). Antifeedant activity of indigenous plant extracts against *Spodoptera litura* Fabricius. *Journal of Insect Science*, 21(1), 56–60.
 - Shatz AJ, Rogan J, Sangermano F, Ogneva-Himmelberger Y, & Chen H. (2013). Characterizing the potential distribution of the invasive Asian longhorned beetle (*Anoplophora glabripennis*) in Worcester County, Massachusetts. *Applied Geography*, 45(1), 259–268.
 - Sinclair BJ, Vernon P, Jaco Klok C, C.S. (2003). Insects at low temperatures: an ecological perspective. *Trends in Ecology & Evolution*, 18(5), 257–262.
 - Beckett SJ. (2011). Insect and mite control by manipulating temperature and moisture before and during chemical-free storage. *Journal of Stored Products Research*, 47(4), 284–292.
 - Soni VK, Dixit SA, Dubey VK. (2001). Host biology relation of *Spodoptera litura* (Fab.) (Lepidoptera: Noctuidae). *Insect Environ*, 7(1), 111–112.

- Souka, S. (1980). Effects of irradiation by sterilizing and substerilizing doses on parents and F1 of the cotton leafworm *Spodoptera littoralis*. *Bulletin de La Société Entomologique d’Egypte*, 63(1), 19–27.
- Souza BHS, Boica-Junior AL, Janini JC, Silva AG, R. N. (2012). Feeding of *Spodoptera eridania* (Lepidoptera: Noctuidae) on soybean genotypes. *Rev Colomb Entomol*, 38(1), 215–223.
- Stassen NY, Logsdon JM, Vora GJ, Offenberger HH, Palmer JD, Z. M. (1997). "Isolation and characterization of rad51 orthologs from *Coprinus cinereus* and *Lycopersicon esculentum*, and phylogenetic analysis of eukaryotic recA homologs. *Current Genetics*, 31(2), 144–157.
- Sudhakar D. (1993). Growth and development of *Spodoptera litura* (Fab.) on different crop plants. *J Insect Sci*, 6(2), 121–122.
- Suraj P, and G.J. (2006). Biology of *Spodoptera litura* Fab. on *Colocasia esculenta*. *Ann Agric Res*, 27(1), 53–58.
- Suryakala S S, Thakur S S and Rao K. (1995). Ovicidal activity of plant extracts on *Spodoptera litura* and *Dysdercus koenigii*. *Indian J Ent*, 57(1), 192–197.
- Gahukar R T. (1992). Groundnut entomology: retrospect and prospect. *Agril Zool Rev*, 5(1), 139–199.
- Tewksbury, J. J; Reagan, K. M; Machnicki, N. J; Carlo, T. A; Haak, D. C; Peñaloza, A. L; Levey, D. J. (2008). Evolutionary ecology of pungency in wild chilies. *Proceedings of the National Academy of Sciences*, 105(33), 11808–11811.
- Devanand P and Rani P U. (2008). Biological potency of certain plant extracts in management of two lepidopteran pests of *Ricinus communis*. *J Biopest*, 1(1), 170–176.
- Monobrulla M and Shankar U. (2008). Sublethal effects of SpltNPV Infection on developmental stages of *Spodoptera litura* (Lepidoptera: Noctuidae). *Biocontrol Sci Technol*, 18(1), 431–437.
- Uckan F, Ergin E. (2003). Temperature and food source effects on adult longevity of *Apanteles galleriae* Wilkinson (Hymenoptera: Braconidae).

Environ Entomol, 32(3), 441–446.

- Thobbi V V. (1961). Growth potential of *Prodenia litura* (Fab.) in certain food plants of Surat. *Indian J Ent*, 23(1), 262–264.
- Wagner TL, Wu HI, Sharpe PJH, Coulson RN. (1984). Modelling distributions of insect development time: a literature review and application of the Weibull function. *Ann Entomol Soc Ame*, 77(2), 474–487.
- Wright, C. A. (2001). Mediterranean Vegetables: A Cook's ABC of Vegetables and Their Preparation in Spain, France, Italy, Greece, Turkey, the Middle East, and North Africa with More Than 200 Authentic Recipes for the Home Cook. *Harvard Common Press*, 978(1), 77–79.
- Wu, C. J., Fan, S. Y., Jiang, Y. H., Yao, H. H. and Zhang, A. B. (2004). Inducing gathering effect of taro on *Spodoptera litura* Fabricius. *Chinese J Ecol*, 23(1), 172–174.
- Xue M, Pang Y H, Wang H T, Li QL and Liu T X. (2010). Effects of Four Host Plants on Biology and Food Utilization of the Cutworm, *Spodoptera litura*. *Journal of Insect Science*, 10(22), 1–14. <https://doi.org/10.1673/031.010.2201>
- Yamamura K, Kiritani K. (1998). A simple method to estimate the potential increase in the number of generations under global warming in temperate zones. *Appld Entomol Zool*, 33(1), 289–298.
- Zag G M and Kushwaha K S. (1983). Quantitative incidence of tobacco caterpillar, *Spodoptera litura* and related natural enemies in Cole crops. *Indian Journal of Entomology*, 45(1), 201–202.
- Zhou, T., Li, H. and Liu, Y. (2010). The effect of flow experience on mobile SNS users' loyalty. *Industrial Management & Data Systems*, 110(6), 930–946.