

## ΓΕΝΙΚΑ ΘΕΜΑΤΑ

### Υπάρχει μέλλον στη φυτοπροστασία της Ευρωπαϊκής Ένωσης: Υφιστάμενη κατάσταση και επιπτώσεις από την «Πράσινη Συμφωνία»

#### Βιβλιογραφία

- Agbo, B.E., A.I. Nta and M.O. Ajaba. 2019. Bio-pesticidal Properties of Neem (*Azadirachta indica*). Advances and Trends in Agricultural Sciences Vol. 1. eBook ISBN: 978-93-89246-17-9. DOI:10.9734/bpi/atias/v1.
- Beckman, J., M. Ivanic, J.L. Jelliffe, F.G. Baquedano, and S.G. Scott. 2020. Economic and food security impacts of agricultural input reduction under the European Union Green Deal's Farm to Fork and Biodiversity Strategies. USDA Economic Research Service, Economic Brief Number 30. 52p
- Biological Products Industry Alliance (BPIA). 2023. History of Biopesticides. <https://www.bbia.org/history-of-biopesticides>
- Bio-Pesticides DataBase (BPDB). 2023. A comprehensive database of substances that includes naturally occurring chemicals, pheromones, bacteria, fungi and insect predators. Available online at <http://sitem.herts.ac.uk/aera/bpdb/index.htm>.
- Bloomquist, J.R., Q.R.R. Coquerel, D. Hulbert, and E.R. Norris. 2023. Neurophysiological action of centrally-acting spider toxin polypeptides derived from *Hadronyche versuta* and *Tegenaria agrestis* venoms. *Pesticide Biochemistry and Physiology* 192:105416.
- Bremmer, J., M. Riemens, and M. Reinders. 2021. The future of crop protection in Europe. Panel for the Future of Science and Technology (STOA) and managed by the Scientific Foresight Unit, within the Directorate-General for Parliamentary Research Services (EPRS) of the Secretariat of the European Parliament. 44p.
- Bremmer, J., A. Meisner, C. Bregman, G. Splinter, A. Horsting, C. van der Salm. 2023. Future pathways towards sustainable crop protection in greenhouse horticulture; Anticipating consequences of the Farm to Fork Strategy. Wageningen, Wageningen Economic Research, Report 2023-041. 80 pp.
- Ελευθεροχωρινός, Η.Γ. 2020. Ζιζανιολογία: Βιολογία και Διαχείριση Ζιζανίων-Ζιζανιοκτόνα, Φυτά και Περιβάλλον. Εκδόσεις Αγροτύπος Α.Ε. Αθήνα. 497 σελ.
- European Environmental Agency (EEA). 2023. Biopesticide definition. <https://www.eea.europa.eu/help/glossary/chm-biodiversity/biopesticide>
- Gerhards, R., D.A. Sanchez, P. Hamouz, G.G. Peteinatos, S. Christensen, C. Fernandez-Quintanilla. 2022. Advances in site-specific weed management in agriculture-A review. *Weed Research* 62:123–133. DOI: 10.1111/wre.12526.
- Hutchins, S.H. 2021. Sustainable Agriculture in the U.S. vs. the EU. A Comparative look at different approaches to similar objectives. *Opinion/Perspectives, CSA News*. DOI: 10.1002/csan.20373
- Kilani-Morakchi S, H Morakchi-Goudjil and K Sifi .2021. Azadirachtin-based insecticide: Overview, risk assessments, and future directions. *Front. Agron.* 3:676208. doi: 10.3389/fagro.2021.676208
- Kumar J, A Ramlal, D Mallik, V Mishra. 2021. An overview of some biopesticides and their importance in plant protection for commercial acceptance. *Plants*, 10, 1185. <https://doi.org/10.3390/plants10061185>
- Meenatchi R and A Negi. 2021. Biopesticides for Pest Management. In book: Sustainable bioeconomy (pp.239-266). Springer Nature Singapore Pte Ltd. DOI: 10.1007/978-981-15-7321-7\_11.
- Mesias-Ruiz, G.A., M. Perez-Ortiz, J. Dorado, A.I. de Castro, and J.M. Pepa. 2023. Boosting precision crop protection towards agriculture 5.0 via machine learning and emerging technologies: A contextual review. *Frontiers in Plant Science* 14:1143326. doi: 10.3389/fpls.2023.1143326.
- Oerke, E.C. 2006. Crop losses to pests. *Journal of Agricultural Science* 144:31-43.
- Ogbuewu IP, VU Odoemenam, HO Obikaonu, MN Opara, OO Emenalom, MC Uchegbu, IC Okoli, BO Esonu, MU Iloeje. 2011. The growing importance of neem (*Azadirachta indica A. Juss*) in agriculture, industry, medicine and environment: A review. *Research Journal of Medicinal Plants* 5(3):230-245.
- Omarini AB, F Achimor, VD Brito, and JA Zygadlo. 2020. Fermentation as an alternative process for the development of bioinsecticides. *Fermentation* 6, 120; doi:10.3390/fermentation6040120.
- Organisation for Economic Co-operation and Development (OECD) 2023. Biological pesticides <https://www.oecd.org/chemicalsafety/pesticides-biocides/biological-pesticides.htm>.
- Pierce, F.J. and P. Nowak. 1999. Aspects of Precision Agriculture. *Advances in Agronomy* 67:1-85.
- Pierce, F.J., P.C. Robert, and G. Mangold. 1994. Site-specific management: The pros, the cons, and the realities. In "Proceedings of the International Crop Management Conference, Iowa State University," pp. 17-21. Iowa State Univ. Press, Ames.
- Sparks TC, DR Hahn, and NV Garizi. 2017. Natural products, their derivatives, mimics and synthetic equivalents: role in agrochemical discovery. *Pest Management Science* 73:700-715.
- Sparks, C., J.M. Sparks, and S.O. Duke. 2023. Natural Product-Based Crop Protection Compounds-Origins and Future Prospects. *Journal of Agricultural and Food Chemistry*, 71:2259-2269.
- US Environmental Protection Agency. 2023. What are biopesticides. <https://www.epa.gov/ingredients-used-pesticide-products/what-are-biopesticides>
- Yang, Z., P. Zhi and C. Chang. 2022. Priming seeds for the future: Plant immune memory and application in crop protection. *Frontiers in Plant Science* 13:961840. doi: 10.3389/fpls.2022.961840.
- Zimdahl, R.L. 2018. Fundamentals of Weed Science. 5th ed. Elsevier Inc., Oxford, UK. 758 p.
- Zaidi, S.S.A., A. Mahas, H. Vanderschuren, and M.M. Mahfouz. 2020. Engineering crops of the future: CRISPR approaches to develop climate-resilient and disease-resistant plants. *Genome Biology* 21:289 <https://doi.org/10.1186/s13059-020-02204-y>.



## ΔΕΝΔΡΟΚΟΜΙΑ

### *Pseudococcus comstocki* (Kuwana)

#### Ένας νέος εντομολογικός εχθρός απειλεί την καλλιέργεια ροδακινιάς στην Ελλάδα

##### Βιβλιογραφία

- Abd-Rabou, S., Shalaby, H., Germain, J.-F., Ris, N., Kreiter, P. & Malausa, T. (2012) Identification of mealybug pest species (Hemiptera: Pseudococcidae) in Egypt and France, using a DNA barcoding approach. *Bulletin of Entomological Research* 102, 515–523.
- CABI, online. CABI Compendium, <https://doi.org/10.1079/cabiccompendium.45084> Wallingford, UK: CAB International. <https://www.cabdigilibRARY.org/> (Accessed: 28.11.2023).
- Correa, M.C.G., Zaviezo, T., Le Maguet, J., Herrbach, E. & Malausa, T. (2014) Characterization of microsatellite DNA libraries from three mealybug species and development of microsatellite markers for *Pseudococcus viburni* (Hemiptera: Pseudococcidae). *Bulletin of Entomological Research* 104, 213–220.
- EPPO (European and Mediterranean Plant Protection Organization), online. EPPO Global Database. Available online: <https://gd.eppo.int> (Accessed: 28.11.2023).
- Gullan, P.J. & Martin, J.H. (2003) Sternorrhyncha (jumping plant-lice, whiteflies, aphids, and scale insects). In: Resh, V.H. & Cardi, R.T. (Eds.), *Encyclopedia of Insects*. Academic Press (Elsevier Science), Amsterdam, pp. 1079–1089.
- Hardy, N.B., Gullan, P.J. & Hodgson, C.J. (2008) A subfamily level classification of mealybugs (Hemiptera: Pseudococcidae) based on integrated molecular and morphological data. *Systematic Entomology* 33, 51–71.
- Malausa, T., Delaunay, M., Fleisch, A., Groussier-Bout, G., Warot, S., Crochard, D., Guerrieri, E., Delvare, G., Pellizzari, G., Bora Kaydan, M., Al-Khateeb, N., Germain, J.-F., Brancaccio, L., Le Goff, I., Bessac, M., Ris, N., Kreiter, P. (2016) Investigating biological control agents for controlling invasive populations of the mealybug *Pseudococcus comstocki* in France. *PLoS ONE* 11 (6), <https://doi.org/10.1371/journal.pone.0157965>.
- Morales, M.G., Denno, B., Miller, D.R., Miller, G.L., Ben-Dov, Y. & Hardy, N.B. (2016) ScaleNet, a literature-based model of scale insect biology and systematics. *Database* 2016, bav118. Available online: <http://scalenet.info> (accessed on 11.12.2016).
- Pellizzari, G., Duso, C., Rainato, A., Pozzebon, A., & Zanini G. (2012) Phenology, ethology and distribution of *Pseudococcus comstocki*, an invasive pest in northeastern Italy. *Bulletin of Insectology* 65, 209–215.
- Pellizzari, G., Chadzidimitriou, E., Milonas, P., Stathas, G. & Kozar, F. (2015) Check list and zoogeographic analysis of the scale insect fauna (Hemiptera: Coccoidea) of Greece. *Zootaxa* 4012 (1), 57–77. <https://doi.org/10.11646/zootaxa.4012.1.3>
- Ricciardi, R., Zeni, V., Michelotti, D., Di Giovanni, F., Cosci, F., Canale, A., Zang, L.-S., Lucchi, A. & Benelli, G. (2021) Old parasitoids for new mealybugs: Host location behavior and parasitization efficacy of *Anagyrus vladimiri* on *Pseudococcus comstocki*. *Insects* 12 (3). <https://doi.org/10.3390/insects12030257>
- Szita, I., Fetyko, K.G., Benedicty, Z.K., Kozar, F., Partsinevelos, G., Milonas, P. & Kaydan, M.B. (2017) Scale insect (Hemiptera: Coccoidea) fauna of Greece, with description of two new species. *Zootaxa* 4329 (5), pp. 463–476. DOI:10.11646/zootaxa.4329.5.4
- Williams, D.J. (2004) Mealybugs of Southern Asia. The Natural History Museum and Southdene SDN, BHD, Kuala Lumpur, 896 pp.
- Παστόπουλος, Σ. & Καζαντζής, Κ. (2023) Ψευδόκοκκοι στις καλλιέργειες ροδακινιάς και λωτού: μια επανεμφανιζόμενη σοβαρή απειλή - Βιολογία και αντιμετώπιση. Γεωργία-Α-Κτηνοτροφία 2023(07), 42-46.
- Εξάπλωση πληθυσμών και προσβολών του *halymorpha halys* Αύξηση πληθυσμών στην ακτινιδιά και επέκταση των προσβολών του στη ροδακινιά

##### Βιβλιογραφία

- Andreadis, S.S., E.I. Navrozhidis, A. Farmakis and A. Pisalidis. 2018. First evidence of *Halyomorpha halys* (Hemiptera: Pentatomidae) infesting kiwi fruit (*Actinidia chinensis*) in Greece. *Journal of Agricultural Sciences* 53: 402–406.
- Arnold, K. 2009. *Halyomorpha halys* (Stål, 1855), a stink bug species newly detected among the European fauna (Insecta: Heteroptera, Pentatomidae, Pentatominae, Cappaenini). *Mitteilungen Des Thuringer Entomologenverbandes*, e.V. 16: 10.
- Bernon, G. 2004. Biology of *Halyomorpha halys*, the brown marmorated stink bug (BMSB). Final report. United States Department of Agriculture APHIS CPHST, 17 pp.
- Δημητριάδης, Α., Σ.Σ. Ανδρεάδης, Ε. Κουτσογεωργίου, Α.Δ. Πισαλίδης, Α.Δ. Φαρμάκης, Ι.Χ. Δελητζάκης και Ε.Ι. Ναβροζίδης. 2019. Επέκταση ζημιών του *Halyomorpha halys* (Hemiptera: Pentatomidae) στη Βόρεια Ελλάδα. 18ο Πανελλήνιο Εντομολογικό Συνέδριο, 15 – 18 Οκτωβρίου 2019, Κομοτηνή.
- Funayama, K. 2004. Importance of apple fruits as food for the brown-marmorated stink bug, *Halyomorpha halys* (Stål) (Heteroptera: Pentatomidae). *Applied Entomology and Zoology* 39: 617–623.
- Hoebeke, E.R. and M. Carter. 2003. *Halyomorpha halys* (Stål) (Heteroptera: Pentatomidae): A polyphagous plant pest from Asia newly detected in North America. *Proceedings of the Entomological Society of Washington* 105: 225–237.
- Kiritani, K. 2007. The impact of global warming and land-use change on the pest status of rice and fruit bugs (Heteroptera) in Japan. *Global Change Biology* 13: 1586–1595.
- Lee, D.-H. and T.C. Leskey. 2015. Flight behavior of foraging and overwintering brown marmorated stink bug, *Halyomorpha halys* (Hemiptera: Pentatomidae). *Bulletin of Entomological Research* 105: 566–573.
- Maistrello, L. 2014. *Halyomorpha halys* in Italy: first results of field monitoring in fruit orchards. IOBC / WPRS Working Group “Integrated Protection of Fruit Crops” Book of Abstracts of the Joint Meeting of the sub-Groups “Pome fruit arthropods” and “Stone fruits”, 06 – 09 October

- 2014, Vienna, Austria.
- Wiman, N.G., V.M. Walton, P.W. Shearer, S.I. Rondon and J.C. Lee. 2015. Factors affecting flight capacity of brown marmorated stink bug, *Halyomorpha halys* (Hemiptera: Pentatomidae). Journal of Pest Science 88: 37–47.
  - Peiffer, M. and G.W. Felton. 2014. Insights into the saliva of the brown marmorated stink bug *Halyomorpha halys* (Hemiptera: Pentatomidae). Plos One 9: e88483.

### Καρποί ροδακινιάς

#### Πρωτόκολλα διαχείρισης εφοδιαστικής αλυσίδας μετά τη συγκομιδή

##### Βιβλιογραφία

- Manganaris GA, Sansavini S, Gradziel T, Bassi D, Crisosto CH. 2023. Peach: An Introduction. Peach, CABI publishers, pp. 1-17.
- Manganaris GA, Vicenete AR, Echeverria G, Crisosto CH. 2023. Postharvest supply chain management protocols and handling of physiological disorders. CABI publishers, pp. 206-225. ■