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# Review Article: Impacts of Pesticides on Human Health and Environment: Need for a New Concept in Agriculture

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**Abstract:** Increasing demand of food has increased the chemical burden on natural ecosystem. A pesticide is a chemical product used in agriculture to protect crops from pests, weeds and to enhance crop yields. However, these pesticides causes large number of negative health and environmental effects. Now a days their side effects have become an important environmental risk factor. The sustainability of agriculture cropping system is a basic question on which the future of humanity is relying. Several indicators tend to suggest that the current system of agriculture production is reaching its limit and become unsustainable. The urgent need for more sustainable agriculture practice has produced many innovative ideas. This review paper emphasised on how the agricultural reforms and food production implementing sustainable practices will evolve to food sovereignty.

Keywords: Ecosystem, Pesticides, Agriculture, Sustainable Agriculture

#### REFERENCES

- [1]. Mesnage R and Seralini G-E (2018) Editorial: Toxicity of Pesticides on Health and Environment. Front. Public Health 6:268. doi: 10.3389/fpubh.2018.00268
- [2]. Cuhra M, Bohn T and Cuhra P (2016) Glyphosate: Too Much of a Good Thing? Front. Environ. Sci. 4:28. doi: 10.3389/fenvs.2016.00028
- [3]. Isra Mahmood, Sameen Ruqia Imadi, Kanwal Shazadi, Alvina Gul, Khalid Rehmaan Hakeem (2015) Effects of Pesticides On Environment. doi: 10.1007/978-3-319-27455-3 13
- [4]. Mariana Furio Franco Bernardes, Murilo Pazin, Lilian Cristina Pereira and Daniel Junqueira Dorta (2015) Impacts of Pesticides on Environmental and Human Health. doi: 10.5772/59710
- [5]. Brzozowski, L., and Mazourek, M. (2018). A Sustainable Agricultural Future Relies on the Transition to Organic Agroecological Pest Management. Sustainability 10, 2023. Available at: http://dx.doi.org/10.3390/su10062023.
- [6]. Monica Giulivo, Miren Lopez de Alda, Ettore Capri, Damià Barceló, Human exposure to endocrine disrupting compounds: Their role in reproductive systems, metabolic syndrome and breast cancer. A review, Environmental Research, Volume 151, 2016, Pages 251-264, ISSN 0013-9351, https://doi.org/10.1016/j.envres.2016.07.011.
- [7]. Mullin CA, Fine JD, Reynolds RD and Frazier MT (2016) Toxicological Risks of Agrochemical Spray Adjuvants: Organosilicone Surfactants May Not Be Safe. Front. Public Health 4:92. doi: 10.3389/fpubh.2016.00092
- [8]. Mesnage R and Antoniou MN (2017) Facts and Fallacies in the Debate on Glyphosate Toxicity. Front. Public Health 5:316. doi: 10.3389/fpubh.2017.00316
- [9]. https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/assessing-human-health-risk-pesticides
- [10]. https://www.conserve-energy-future.com/effects-pesticides-human-health-environment.php
- [11]. Brzozowski, L.; Leckie, B.M.; Gardner, J.; Hoffmann, M.P.; Mazourek, M. Cucurbita pepo subspecies delineates striped cucumber beetle (Acalymma vittatum) preference. Hortic. Res. 2016, 3, 16028. [Google Scholar] [CrossRef] [PubMed]
- [12]. Laycock, I.; Lenthall, K.M.; Barratt, A.T.; Cresswell, J.E. Effects of imidacloprid, a neonicotinoid pesticide, on reproduction in worker bumble bees (*Bombus terrestris*). *Ecotoxicology* 2012, *21*, 1937–1945. [Google Scholar] [CrossRef] [PubMed]

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- [13]. Stenberg, J.A. A Conceptual Framework for Integrated Pest Management. *Trends Plant Sci.* 2017, 22, 759–769. [Google Scholar] [CrossRef] [PubMed]
- [14]. Seufert, V.; Ramankutty, N.; Foley, J.A. Comparing the yields of organic and conventional agriculture. *Nature* 2012, 485, 229–232. [Google Scholar] [CrossRef] [PubMed]
- [15]. International Agency for Research on Cancer. *IARC Monographs Volume 112: Evaluation of Five Organophosphate Insecticides and Herbicides*; International Agency for Research on Cancer: Lyon, France, 2015; Volume 112. [Google Scholar]
- [16]. Baker, B.P.; Benbrook, C.M.; Groth, E.; Benbrook, K.L. Pesticide residues in conventional, integrated pest management (IPM)-grown and organic foods: insights from three US data sets. *Food Addit. Contam.* 2002, *19*, 37–41. [Google Scholar] [CrossRef] [PubMed]
- [17]. Ren, W.; Hu, L.; Zhang, J.; Sun, C.; Tang, J.; Yuan, Y.; Chen, X. Can positive interactions between cultivated species help to sustain modern agriculture? *Front. Ecol. Environ.* 2014, *12*, 507–514. [Google Scholar] [CrossRef]
- [18]. Willer, H.; Lernoud, J. Organic Agriculture Worldwide 2017: Current Statistics; Research Institute of Organic Agriculture: Frick, Switzerland, 2017. [Google Scholar]
- [19]. Peshin, R.; Bandral, R.S.; Zhang, W.; Wilson, L.; Dhawan, A.K. Integrated Pest Managment: A Global Overview of History, Programs and Adoption. In Integrated Pest Management: Innovation-Development Process; Peshin, R., Dhawan, A.K., Eds.; Springer: Berlin, Germany, 2009; pp. 317–329. [Google Scholar]
- [20]. U. Heudorf et al. Phthalates: toxicology and exposureInt. J. Hyg. Environ. Health (2007)
- [21]. B. Huang et al. Maternal exposure to bisphenol A may increase the risks of Parkinson's disease through down-regulation of fetal IGF-1 expressionMed. Hypotheses (2014)
- [22]. Teyssier L, Colussi J, Delemasure S, Chluba J, Wendehenne D, Lamotte O and Connat J-L (2017) Inflammatory Effects of the Plant Protection Product Stifenia (FEN560) on Vertebrates. *Front. Public Health* 5:74. doi: 10.3389/fpubh.2017.00074
- [23]. Donald DB, Cessna AJ, Sverko E, Glozier NE. Pesticides in surface drinking-water supplies of the northern Great Plains. Environ Health Perspect. 2007 Aug;115(8):1183-91. doi: 10.1289/ehp.9435. PMID: 17687445; PMCID: PMC1940079.

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