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Editorial

Honey Bee and Herbicide: The Dilemma of Two H

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There is indiscriminate use of pesticides and herbicides to increase the crop yield [1]. In spite of definite ill effect of these molecules on human health [2] the use of these harmful chemicals are rampant. Although new methods are getting generated to understand pesticide toxicity on human health [3-7] there is no sign that we can effectively control the use of these chemicals in near future. Apart from human health we feel that another aspect needs an urgent focus.

It is true that pesticides and herbicides kill the harmful pests [8]. However, it also poses a threat to the health of honeybees [9]. Particularly the honey bee gut microbiome is affected [10], which poses a serious threat to the health of honey bee. It is needless to explain that if honey bee reduces in number then use of pesticides and herbicides will not increase the crop yield unless an alternate way of pollination is evolved. Therefore, it is need of the hour to understand honey bee health in the context of use of pesticides and herbicides. To address this issue a honey bee census is must to understand the population density of honey bees and the occurrence of symptoms of pesticide poisoning with relation to honey bee density in a geographical location. We feel that time is ripe to link human health with these sorts of environmental issues.

Bibliography

1. Benbrook CM. "Trends in glyphosate herbicide use in the United States and globally". *Environmental Sciences Europe* 28.1 (2016): 3.
2. García-García CR., *et al*. "Occupational pesticide exposure and adverse health effects at the clinical, hematological and biochemical level". *Life Science* 145 (2016): 274-283.
3. Aroniadou-Anderjaska V., *et al*. "Targeting the glutamatergic system to counteract organophosphate poisoning: A novel therapeutic strategy". *Neurobiology of Disease* 19 (2019): 30048.
4. Sin-Yee Law A., *et al*. "A Luminescence Turn-On Assay for Acetylcholinesterase Activity and Inhibitor Screening Based on Supramolecular Self-Assembly of Alkynylplatinum(II) Complexes on Coordination Polymer". *ACS Applied Materials and Interfaces* 11.5 (2019): 4799-4808.
5. Chowdhary S., *et al*. "A novel fluorescence based assay for the detection of organophosphorus pesticide exposed cholinesterase activity using 1-naphthyl acetate". *Biochimie* 160 (2019): 100-112.
6. Zhaosheng., *et al*. "A fluorometric assay for acetylcholinesterase activity and inhibitor screening with carbon quantum dots". *Sensors and Actuators B: Chemical* 222 (2016): 879-886.
7. Yan X., *et al*. "Oxidase-mimicking activity of ultrathin MnO2 nanosheets in colorimetric assay of acetylcholinesterase activity". *Nanoscale* 9.6 (2017): 2317-2323.
8. EL Carmo., *et al*. "Pesticide selectivity for the insect egg parasitoid Telenomus remus". *BioControl* 55.4 (2010): 455-464.
9. Vázquez DE., *et al*. "Glyphosate affects the larval development of honey bees depending on the susceptibility of colonies". *PLoS One* 115.41 (2018): 10305-10310.
10. Motta EVS., *et al*. "Glyphosate perturbs the gut microbiota of honey bees". *Proceedings of the National Academy of Sciences of the United States of America* 115.41 (2018): 10305-10310

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