



Adverse effects of pesticides in inhibiting glutathione levels: Fludioxonil and effects.

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Abstract:

Glutathione-S-Transferase (GST) is a group of detoxicating enzymes that catalyze the conjugation of reduced glutathione with toxic metabolites. It has been referred to as playing a key role in health during this global pandemic that helps our body's cells fight against diseases like COVID-19. Certain active ingredients present in pesticides were found to produce an inhibitory effect against the enzyme activity of glutathione. Fludioxonil, a fungicide used for seed storage and in the extension of shelf life of the products, is said to weaken the glutathione levels. According to the Pesticide Action Network, fludioxonil residue has been detected in certain fruits and vegetables including grapes, strawberries, cucumber, and carrot. Moreover, it was under the list of the “six most concerning pesticides” by Consumer Reports 2020. Therefore, it is best advised to practice a healthy lifestyle by eating organic foods to maintain glutathione levels in the body.

Biography:

Deepthi Ashok, an ardent learner and an enthusiastic researcher, is currently pursuing her master's degree in Biotechnology from Kongunadu Arts and Science College, Coimbatore affiliated to Bharathiar University, India. She did her undergraduate in the same field from St. Joseph College, Irinjalakuda, Kerala. Throughout her student life, she had the quest for knowledge. She has attended many workshops in the field of life sciences and is still looking for opportunities to increase her knowledge in the field of Science and Technology. She even participated in the CSIR Summer online research training program 2020 recently. One of her paper titled “A Review on Bio MEMS”, which she did during this workshop is under the process of publication. Currently, she has done a case study on the “Clinical range of Efficient Liver Biomarkers: Bilirubin, AST and ALT”.



Publication of speakers:

1. Deepthi Ashok, (2019). Purification and characterization of glutathione S-transferase from blueberry fruits (*Vaccinium arctostaphylos* L.) and investigated of some pesticide inhibition effects on enzyme activity. *Heliyon*, 5(4), e01422.
2. Deepthi Ashok, (1987). The glutathione S-transferases of fish. *Fish physiology and biochemistry*, 3(4), 163–172.
3. Deepthi Ashok, (2019). Uncertainty surrounding the mechanism and safety of the post-harvest fungicide fludioxonil. *Food and chemical toxicology: an international journal published for the British Industrial Biological Research Association*, 123, 561–565.
4. Deepthi Ashok, (2009). Glutathione: overview of its protective roles, measurement, and biosynthesis. *Molecular aspects of medicine*, 30(1-2), 1–12.
5. Deepthi Ashok, (2012). A preliminary investigation into the impact of a pesticide combination on human neuronal and glial cell lines in vitro. *PloS one*, 7(8), e42768.

[Webinar on Food safety | November 16, 2020 | Dubai, UAE](#)

Citation: Deepthi Ashok; Adverse effects of pesticides in inhibiting glutathione levels: Fludioxonil and effects.; Food Safety 2020; November 16, 2020; Dubai, UAE