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Duckweed cultivation under LEDs as a promising food safety application of green leafy vegetable production

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Recent studies have shown that Light Emitting Diodes (LEDs) improve the postharvest quality and shelf life of the food products by promoting bioactive compounds like Vitamin C, beta-carotene, lutein, alpha-tocopherol, anthocyanin, and total phenolic production while increasing the nutrient quality of plants. Bioactive compounds are the secondary metabolites giving the color, aroma, and the taste of the plants in addition to inducing the pathogen resistance. LEDs emitting specific bandwidths are promising for greenhouse plant cultivation and food preservation due to its minimal thermal effects and high photon flux. In this study, we aim to cultivate three duckweed species (*Lemna minor*, *lemna gibba*, and *Wolffia arrhiza*) to demonstrate the antioxidant compound production in wastewater environment under the red, blue and red/blue LEDs. We focus on the potential use of LEDs in the production of bioactive compounds boosting the quality of plant-sourced foods and microbial safety for the post-harvesting period.

Biography

Esra Kaya presently a PhD student studying at University of Nottingham, UK.

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