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Light Emitting Diode: A novel technique for preservation of agro and food commodities

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Preservation of agricultural products and food commodities is a major concern now-a-days. In order to augment this issue, worldwide there are many novel technologies which are under intensive research. Light emitting diode (LED) is an emerging non-thermal technology which is at infant stage and has a great potential for food and agro industry. LED is a semiconductor which emits visible light when an electric current passes through it. A LED can emit light within a very narrow wavelength spectrum and can bring about antibacterial effect in microorganisms. There has been very less research work carried out to explore the potential of the technology in order to inactivate the microorganisms in foods. If proven to inactivate microorganism in food and agro industry, the technology can be successfully applied for increasing the shelf-life of food products and agricultural commodities. So, the authors conducted a research to investigate the inactivation of microbial inactivation by using LED lights in the range 400-480 nm wavelength which damages the DNA of the microbes and observed that 5-log reduction can be obtained. This is a novel technology that overcomes the limitations of other novel technologies and proves beneficial to the food and agro processing sector.

Biography

Tamanna R has completed her BTech in Food Process Engineering from Indian Institute of Crop Processing Technology, MoFPI, Govt. of India, Thanjavur, Tamilnadu. She was the University topper of 2010-14 batch in her Undergraduate. She holds an 'Advanced Diploma in Agri-Business Management'. She was awarded with Dr. Subramaniam MAIP award to attending International study tour program organized by IICPT in collaboration with Kasetsart University at Bangkok, Thailand. Also, she was awarded with Brig. Anil Adhalaka Award for her outstanding academic performance in 2011-12. She has attended 3 International conferences and 10 National seminars and presented many papers and posters.

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