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**Led light assisted pasteurization on soy milk****Preeti Bisht<sup>1</sup> and E. P. Banuu Priya<sup>2</sup>**<sup>1</sup>Indian Institute of Plantation Management, India<sup>2</sup>Indian Institute of Plantation Management, India

**A** Light-Emitting Diode (LED), electrons in the semiconductor recombine with electron holes, releasing energy in the form of photons at applied voltage creating electroluminescence. LED have unique properties that make them highly suitable for different operations in the food industry for long life expectancy, Mechanical robustness, high emissions of monochromatic light and Flexibility. It has low emissions of radiant heat in the form of IR radiation, which reduces undesirable effects of heat on food. Lights have a differing impact on the sensory quality of soy milk when compared to exposure from fluorescent lighting. As the majority of consumers prefer the taste of light protected soy milk to light-exposed milk, switching fluorescent lights with LEDs for energy efficiency may affect the milk's flavor, and further influence sales of dairy products. The effect of LED treatment on inactivation of Escherichia Coli in soy milk was investigated. The studies showed that the 75-80% of microbial reduction was obtained at higher temperatures (5-15 degree centigrade) with lower wavelengths (405-460nm) and treatment time (0-90 min) was considered as the independent variables, and log reduction and overall colour change of the treated milk were measured as the dependent variables. There was no significant variation in physico-chemical properties of the LED treated soy milk in comparison to untreated samples. The shelf-lives of the LED treated samples, packaged aseptically in low density polyethylene pouches and stored at 37 degree centigrade and 4 degree centigrade. Therefore, LED technology is an innovative approach for preservation of food. The LED technique is also on trial in Institutes like IIFPT (Thanjavur), National Institute of Singapore, University of Virginia, Cornell University (New York). This technique would pave a platform for development of a continuous LED pasteurization system in the near future.

**Biography**

Preeti Bisht is a techno-manager of Food processing & Business management in Indian Institute of Plantation Management, Bangalore. She holds Bachelor degree in Agricultural Sciences from Banaras Hindu University. She has attended seminars at International conferences (CSIR-CFTRI, MYSORE), IIFPT (THANJAVUR, TAMIL NADU) & she has an immense experiences of workshops in IIM AHMEDABAD.

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