

**Joint Webinar on**  
**7<sup>th</sup> World Conference on**  
**Applied Microbiology and Beneficial Microbes**  
&  
**3<sup>rd</sup> International Conference on Applied Microbiology**  
**February 21-22, 2022 | Webinar**

**Optimization of fermentation kinetics of soymilk fermentation by *L. Plantarum* mtcc 25433 (bbc33), *L. Plantarum* mtcc 25432 (bbc32b) with and without starter culture under varying conditions**

Riboflavin (vitamin B2) is a crucial vitamin for metabolic processes such cell development, energy generation, and redox potential. The incorporation of probiotic strains with the potential to produce riboflavin and the development of functional foods such as fermented soymilk has huge societal importance. For process optimization of fermentation kinetics, the fermentation process of soymilk inoculated with different combinations (1%,2%,2% for each) of starter and probiotics cultures were analysed for parameters i.e., probiotic count and riboflavin count at different time intervals. For probiotic count, suitable amount of sample drawn at each time interval & serially diluted in sterile normal saline and suited dilutions were plated on MRS agar plates. 5 mL fermented soy-milk combined with an equivalent amount of acetic-acid (1%) was autoclaved at 121°C for 30 minutes. To evaluate riboflavin concentration, the samples were centrifuged at 10,000g for 15 minutes. For riboflavin estimation, 0.22 µm filters were used to filter the obtained supernatant (Merck, Germany). The High-performance liquid chromatography (HPLC) was used for analyzing the supernatant obtained from fermented soy-curd using a reverse-phase C18 column and fluorescence detector having excitation wavelength 440 nm and emission wavelength 520 nm. The samples were analysed using an isocratic elution technique with a flow rate of 1mL per min and a methanol/water (35:65v/v) mobile phase. As a control, pure riboflavin is used. The soymilk fermented with *L. plantarum* MTCC 25433(2%), *L. plantarum* MTCC 25432 (2%), and *L. plantarum* (2%) and *L. acidophilus* (2%) from standard dahi cultures showed maximum riboflavin production at 12 hours of incubation.



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### Biography

Dr. Tejpal Dhewa is a faculty in the School of Life Sciences, Central University of Haryana, Mahendergarh. He is the Coordinator, Food Safety Training and Certification (FoSTaC) Centre, Food Safety and Standards Authority of India (FSSAI), and University SWAYAM Coordinator- Central University of Haryana. Dr.Dhewa is a Course Coordinator of SWAYAM UGC MOOC on “Food Microbiology and Food Safety”. Dr. Dhewa has a diverse industrial, teaching, and research experience. He has published his research works in national and international journals. Dr.Dhewa also supervised several master’s theses/dissertations. He has successfully completed DU innovation project (2013-2015), and conducted several short-term courses under the Ministry of Human Resource Development (MHRD), Government of India, and scheme of Global Initiative of Academic Networks (GIAN). Moreover, Dr.Dhewa’s research is funded by Science and Engineering Research Board (SERB), Department of Science and Technology (DST), Government of India.

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