

Development of Synbiotic Pomegranate Beverage from *Lactobacillus sp.* Immobilized in Alginate Beads †

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Abstract: Consumer's demand for functional food has considerably increased beyond just providing the basic nutrients due to its greater potential to reduce the risk of the diseases and enhance healthy gut microbiota. Non-dairy probiotic product with numerous advantage and health benefits is certainly a field to be greatly explored. Here the work focuses on the development of pomegranate beverage with additional functional components, i.e., *Lactobacillus* as probiotic culture immobilized with prebiotic alginate beads- synergetically forms a synbiotic product with greater nutritional significance. Different species of *Lactobacillus*, *L.casei*, *L.plantarum*, *L.acidophilus* were studied. Fermentation was carried out. Based on the viability, pH, and other chemical analysis which were conducted to check the efficient use of the substrate, a strain was identified for further process development. Our future work comprises immobilization of the strain with alginate beads and introducing it with the beverage to enhance and acquire desirable product quality.

Keywords: Functional food; non-dairy probiotic; pomegranate beverage; prebiotic alginate beads; synbiotic product.

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Conflicts of Interest

The authors declare no conflict of interest.