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## DETERMINATION OF VIABLE BACTERIAL COUNTS AND ACETALDEHYDE CONTENTS IN BIOYOGURT PRODUCED BY USING LACTOBACILLUS ACIDOPHILUS AND LACTOBACILLUS CASEI AT DIFFERENT INOCULUM RATES

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### Abstract:

Due to their attributed health benefits, probiotic bacteria (such as *L. acidophilus* and/or *Bifidobacteria*) have been increasingly included in yogurts and fermented milks during the past three decades. The addition of probiotic bacteria is made not only because of certain claimed health-promoting effects in the intestinal tract but also because of the sensory aspects as well as the expanding variety of products that can be formulated with them.

In this study, the effects of different inoculum rates of *Lactobacillus acidophilus* and *Lactobacillus casei* of using in the production of bio-yogurt on the viable bacterial counts and acetaldehyde contents were determined during storage. For this purpose, different inoculum rates (1%, 2% and 3%) of both probiotic bacteria were tested. So, suitable inoculum rate were detected for production of bio-yogurt, which has enough probiotic bacterial content for supplying desirable aromatic effect and also the therapeutic minimum (106-107 cfu g<sup>-1</sup>). In addition to, the effects of inulin (at a rate of 1%) were searched for encouraging of probiotic bacterial development and quality of bio-yogurt.

According to the results, the effects of inoculum rate of probiotic bacteria, storage period and addition of inulin were significant on the physicochemical, microbiologic and sensory properties of bio-yogurt ( $p < 0.01$ ).

**Keywords:** Bio-Yogurt, Probiotic, Prebiotic, Inoculum Rate, Storage Period

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