



**MICROBIOLOGICAL PREPARATION OF NON-ALCOHOLIC NATURALLY
CARBONATED BEVERAGE FROM GUAVA AND ITS BLENDS WITH LEMON**

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ABSTRACT

A pure yeast isolate *Clavispora lusitaniae* from whey beverage, phenotypically and molecularly characterized was used to develop a reliable, controllable and reproducible technology for preparation of non-alcoholic beverage from guava var. *Allahabad Safeda* and its blends with lemon var. *Citrus latifolia*. The fermentation conditions and process parameters optimized were TSS 15°B, pH 4.2, acidity 0.22%, juice 15 per cent for guava beverage and TSS 15°B, pH 3.0, acidity 0.29%, juice 12.5 per cent for guava: lemon (1:1) beverage. The specific growth rate (h^{-1}) and generation time (h) of yeast in guava beverage were 0.39 and 1.77 respectively. The physico chemical and microbiological characteristics of guava var. *Allahabad Safeda* beverage were pH 3.9, TSS 11.7°B, acidity 0.53%, ascorbic acid 13.5 mg/100ml, alcohol (%v/v) 0.89, CO₂ 1.53 bar and total plate count 33×10^9 cfu/ml with a shelf life of 75 days and guava: lemon (1:1) beverage were pH 2.8, TSS 12.73°B, acidity 0.61%, ascorbic acid 5.3 mg/100ml, alcohol (%v/v) 0.98, CO₂ 1.50 bar and total plate count 28×10^9 cfu/ml with a shelf life of 90 days under refrigerated conditions (4°C). The beverage scored liked very much due to naturally produced CO₂ during fermentation that added effervescence, sparkle and tangy taste to the beverage.

**Keywords: Non-Alcoholic Naturally Carbonated, *Clavispora lusitaniae*, Fermentation,
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