P 542

BACILLUS SPECIES ASSESSMENT OF SORREL DRINKS PRODUCED BY STEEPING AND BOILING METHODS

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Sorrel drink (SD) is traditional soft drink produced by either boiling or steeping the calyx of sorrel (i.e. *Hibiscus sabdariffa*) in potable water; it is usually sweetened with sugar and served chilled to consumers. But harsh conditions, such as the boiling and refrigeration temperatures, could initiate and support the production of spores by *Bacillus species*. Also, it has been established that *B. cereus* and *B. subtilis* produce spores and they are potential food poisoning agents causing emetic and diarrhoeal infection. Therefore, a comparison of the production of ZD from the two methods was undertaken to assess the impact of these two methods to ensure the safety of SD. Sample of purple variety of sorrel calyx was sourced from Nigeria; the granulated sugar was purchased from Gillingham, United Kingdom. And the materials used for production and microbial analysis of SD were sourced from the Microbiology laboratory, Natural Resources Institute, University of Greenwich, UK. Steeping and boiling methods were adopted for the production of SD samples. SD samples were then stored at 4℃ for 30 min before conducting microbial analysis using the method described by literature. Samples produced from steeping method showed higher counts of APC and PBSC than the samples produced from boiling method. In this study it was observed that microbial cells were not detected from samples of ZD produced by boiling method during 10, 15 and 20 min, respectively.

Keywords: *Bacillus,* sorrel drinks, steeping, boiling methods

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