MICRO BIOTEC 19

CONGRESS OF **MICROBIOLOGY** AND **BIOTECHNOLOGY 2019**

December 5th-7th, 2019
University of Coimbra (Pólo II)

BOOK OF ABSTRACTS

SPM
Sociedade Portuguesa de Microbiologia

spbt
sociedade portuguesa de biotecnologia

1 2 9 0
UNIVERSIDADE D COIMBRA

I10. Industrial and Food Microbiology and Biotechnology

P403. Enumeration and isolation of acid acetic bacteria in kombucha during fermentation

Cosme Damião Barbosa, Wildon César Rodrigues Santos, Verônica Ortiz Alvarenga, Helena da Conceição Albano, Paula Cristina Maia Teixeira, Carlos Augusto Rosa, Inayara Cristina Alves Lacerda
Universidade Federal de Minas Gerais, Minas Gerais, Brasil; Escola Superior de Biotecnologia da Universidade Católica Portuguesa, Porto, Portugal

E-mail: *barbosacosme@yahoo.com.br*

Kombucha is a non-alcoholic fermented beverage. The fermentation is performed by a consortium of lactic acid bacteria, yeast, and acetic bacteria. The exact microbial composition is dependent on the source of the inoculum and the conditions of fermentation. However, the dominant bacteria in Kombucha tea culture are acetic acid bacteria (AAB). The main genera of AAB present in Kombucha are *Acetobacter* and *Gluconobacter*. These microorganisms are responsible cellulosic floating matrix producing on the surface of fermented tea. Considering the limitations of commercial culture medium for acetic bacteria enumeration and identification, this work aimed to evaluate formulated culture media describe in literature. The samples of Kombucha (water, sucrose [0.8g.L^{-1}], green tea [0.15g.L^{-1}]) were collected in different times of fermentation (0, 3, 7, 10 and 15 days) for AAB enumeration. A total of 8 culture medium: YGM, YG, R.A.E, MYP, AE, Suomaleinem, Moraes and GYC was used for AAB enumeration and plates were incubated at 30°C for 96 h. The BAA counts ranged to 4.16 (0 days) from 5.96 log10. mL^{-1}(15 days) in AE; in RAE the BAA count variated from 4.19 (0 days) from 5.4 log10. mL^{-1}(15 days); the results observed in GYC was 4.12 for 0 days and 6.84 log10. mL^{-1} for 15 days; in MYP, the counts ranged to 4.63 (0 days) from 7.20 log10. mL^{-1}(15 days); in Moraes, the count's recovery was 4.16 in 0 days and 5.96 log10. mL^{-1} in 15 days; in Soumaleinem the counts varied to 4.85 (0 days) from 6.78 log10. mL^{-1}(15 days); in Carr, the counts were 4.21 in 0 days and 6.87 log10. mL^{-1} in 15 days and DSM the AAB count was 3.21 (0 days) and 5.96 log10. mL^{-1}(15 days). In general, a higher count of AAB, during the fermentation, was the recovery in Sumomaleinem, except at the end of fermentation, the higher count was found in MYP. The lower microbial recovery was observed in DSM (3.62 log10. mL^{-1} [0 days] and 5.93 log10. mL-1[15 days]). Thus, the composition of culture media influenced by AAB recovery.