

Selection criteria of *Pediococcus* sp. and *Bifidobacterium bifidum* Strains Isolated from Cereals Based on Fermented Food for Probiotic use †

Devika D. ¹, Aswani K.S. ¹, Shylanath G. ¹, S. Dhiva ^{1,*}

¹ Department of Microbiology, Sree Narayana College, Alathur, Palakkad Dist, Kerala, India

* Correspondence: dhivasoju@gmail.com;

† Presented at International e-Conference on Bioengineering for Health and Environment (ICBHE 2020)

Received: 5.07.2020; Revised: 10.07.2020; Accepted: 12.07.2020; Published: 15.07.2020

Abstract: Cereal based Fermented foods are a rich source of Probiotic organisms. Once if the Probiotic organisms are consumed, it should be capable of adhering to the colon region. To find out the efficiency of *Pediococcus* sp. and *Bifidobacterium* sp. they were subjected to *in-vitro* tests such as tolerance to bile, resistance to low pH values, cell adhesion and antagonistic activity among the two organisms, *Bifidobacterium* sp. showed better growth at pH 3.5 than *Pediococcus* sp. during the increased incubation time. Cells remain viable up to 0.8% of bile concentration beyond which the multiplication was slow in the case of both the strains. *Bifidobacterium* sp. showed good adherence to the substratum than *Pediococcus* sp. Both the organisms were antagonistic against common enteric pathogens, which is an ideal characteristic of a probiotic.

Keywords: Probiotic; acid and bile tolerance; cell adhesion; hemolysis; antagonism.

© 2020 by the authors. This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Funding

This research received no external funding.

Acknowledgments

This research has no acknowledgment.

Conflicts of Interest

The authors declare no conflict of interest.