African Journal of Food Science and Technology (ISSN: 2141-5455)
Vol. 12(3) pp.01, April, 2021 Available online
@https://www.interesjournals.org/food-science-technology.html
DOI: 10.14303/ajfst.2021.017

Short Communication

A brief note on kombucha tea fermentation

Alsubaie Atta

Department of Food Chemistry, Obafemi Awolowo University, Saudi Arabia

alsubaieatta@gmail.com

Fermentation is one in every of the oldest strategies for food preservation. It is also a very low-cost energy conservation system, which is necessary to make sure the life and safety of food. Many biochemical changes take place during fermentation and may have an effect on the nutrient compounds and accordingly the properties of the final product, like the digestibility and bioactivity. Recently, this bioprocess has been applied for the manufacture and removal of bioactive compounds from plants in food and drink industries. Kombucha is a traditional fermented tea whose utilization has increased in the recent periods due to its various functional properties such as anti-inflammatory potential and antioxidant activity. The microbiological composition of this drink is a sort of complicated and still for more study is needed so as to totally understand its activities. This study comprises the chemical and microbiological composition of the tea and the major factors that may have an effect on its production. Kombucha tea is obtained from a symbiotic culture of acetic acid bacteria, lactic acid bacteria, and yeasts in a sweet medium, generally black tea Battikh et al. (2012).

Factors influencing kombucha fermentation

Fermentation is influenced by lots of factors such as the shear rate in the fermented, the operating system, the supply of precursors, the CO_2 dissolved, temperature, pH, the amount of oxygen as well as the nature and composition of the medium. Any difference in these factors can have an effect on the rate of fermentation, the spectrum, the performance, the organoleptic properties, the nutritional quality, and other physicochemical properties of the product Ayed et al. (2016). Various plant varieties, sugar concentrations, fermentation time, and composition of tea fungus may report for differences in composition and therefore the biological activities would also be pretentious.

Potential toxicity

Kombucha fermentation is usually homemade, and therefore it is significant to be cautious because pathogenic microorganisms can pollute the tea throughout the preparation. Some cases of health disorders have been reported the major problem with the persons are dizziness and nausea, severe illness, allergic reactions, and head pain, thus most important to its contraindication in pregnant and lactating women evaluated oral toxicity for some days in rats and any toxic signs were detected.

Perspectives

Even though at the present time Kombucha tea is well known to all over the world, its biological properties are not understood. Much more study is required regarding Kombucha fermentation kinetics is needed in order to be able to recognize the produced metabolites, particularly those that may be potentially helpful and to understand its connection with the biological activities. Concerning the Kombucha substrates, plant extracts have attracted great interest because of their various applications. Furthermore, the addition of a fermentation process from a laboratory scale to a saleable product is a challenge because of the complexity of evaluating the factors which may influence the scaling process during agriculture. More scientific study should be done to understand the connections between the fermentation and the biological activities of Kombucha tea, establishing it as a functional drink with a clear confirmation in the merits and demerits of its consumption Bauer-petrovska and Petrushevska-tozi (2000).

REFERENCES

Ayed L, Ben Abid S, Hamdi M (2016). Development of a beverage from red grape juice fermented with the Kombucha consortium. Annals of Microbiology.

Battikh H, Bakhrouf A, Ammar E (2012). Antimicrobial effect of Kombucha analogues. LWT-Food Science and Technology 47(1): 71–77

Bauer-petrovska B, Petrushevska-tozi L. (2000). Mineral and water soluble vitamin content in the Kombucha drink. International Journal of Food Science and Technology, 35: 201–205.