

Abstract

There is a possibility of sorghum utilization as a food product in the Indonesian Market. In reality, some parts of the country already started to produce Sorghum to provide food and animal feed requirements. This is due to the nutritional content in sorghum that is said to be high in carbohydrates, protein (10%), fiber, and a rich source of amino acids. However, a large portion of components that are contained in sorghum is the presence of Antioxidants such as tannin (0.10 to 3.6%), which is an anti-nutrient that inhibits and decreases the absorption of protein and minerals in the body. As an attempt to increase the nutrient absorption of nutrition, reduction of tannin is a necessary procedure to increase the effectiveness of nutrient absorption and the palatability of sorghum-based products. One way to reduce the tannin content of food products is through fermentation. During the fermentation process, certain bacteria strains are able to produce tannase and degrade the tannin compound into sugar and organic acid. However, the high microbial activity in fermented products possess the risk of increased spoilage or overfermentation rate. Therefore, a preservation attempt can be done to prevent the negative effects from occurring while maintaining the beneficial compounds. The objective of this research is to produce a dry powder form of kombucha drink made from red sorghum while maintaining its beneficial chemical components which are determined through Microorganism content, pH, Tannin content, and Protein content. Each parameter is analyzed using universal testing methods such as Total Plate Count (TPC), pH measurement using pH meter, Tannin analysis using Folin reagent, and protein analysis using Bradford method. During the analysis, it is found that the total microorganism count of sorghum kombucha after 7 days fermentation is similar to other commercially available kombucha made from other base ingredients. There are also no significant differences observed in tannin and protein levels between the liquid and the dry kombucha sample. However, the pH level is found to be significantly different which may be due to improper dilution ratio prior to the analysis.

keyword: Dry powder, Red Sorghum, Kombucha, Tannin, Protein