

ABSTRACT

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UTILIZATION OF CRUDE POLYSACCHARIDE FROM *TREMELLA FUCIFORMIS* AS A STABILIZER IN MULTI GRAIN BEVERAGE

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The nature of the raw material used for making the multi grain beverages affects the stability of the final products and this has become a common problem in multi grain beverage. Some commercial stabilizer can be used to overcome this problem in certain limit Polysaccharides of *Tremella fuciformis* is reported to have the ability to stabilize food products. Thus, it may have the potency to be used as a substitution of commercial stabilizers in multi grain beverages. This research was aimed to utilize the crude acid-extracted polysaccharides obtain from *Tremella fuciformis* as a stabilizer in multi grain beverage and carried out through several stages start from determining the compatibility of the *Tremella fuciformis* crude polysaccharides with several commercial stabilizers, determining the effect of using *Tremella fuciformis* crude polysaccharides with several ratio to the chosen commercial stabilizer on physicochemical and sensory characteristic of the multi grain beverage as well as the potential functional values from the addition of *Tremella fuciformis* crude polysaccharides were used as the parameter to assess the physicochemical properties of the multi grain beverage. The result showed that compared to guar gum and carrageenan, the *Tremella fuciformis* crude polysaccharides are compatible with xanthan gum shown by the increase in viscosity of the xanthan gum solution from 17.5 cPs to 56.75 ± 1.06 cPs when added with the *Tremella fuciformis* crude polysaccharides. In the application of *Tremella fuciformis* crude polysaccharides in the multi grain beverage, the data showed that the use of *Tremella fuciformis* crude polysaccharides affected the physicochemical and sensory characteristics of multi grain beverages. The preferred formulation was the multi grain beverage added with 0.04% of stabilizers total concentration and the ratio 50:50 of xanthan gum and *Tremella fuciformis* crude polysaccharides. It had 0% separation until 9 days observation with the viscosity of 58.41 ± 26.34 cPs, the lightness value of 65.82 ± 2.12 , the pH value of 5.95 ± 0.19 , and slightly like for hedonic overall acceptability. The use of *Tremella fuciformis* crude polysaccharides also increased the dietary fiber content from 0.64 ± 0.01 (control) to $3.15 \pm 0.08\%$. Therefore, *Tremella fuciformis* crude polysaccharides has the potential to be used as a stabilizer in multi grain beverage.

Keywords : *Tremella fuciformis*, crude polysaccharides, multigrain beverage, stabilizer

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