

## **Development of kombucha herbal tea mixed with black jelly mushrooms (*auricularia polytricha*) agar**

### **ABSTRACT**

Kombucha tea is an oriental drink that undergoes a fermentation process. It is made from sweetened tea fermented by the Symbiotic Colony of Bacteria and Yeast (SCOBY). The study aims to produce Kombucha tea mixed with black jelly mushrooms (*Auricularia polytricha*) agar through the best formulation and to determine nutritional profiling including the antioxidant capacity of the drinks. There are five formulations including a control group, developed for the Kombucha tea and BJM agar. All groups of samples were run for the proximate composition and antioxidant capacity using the DPPH method. Through sensorial analysis, F3 and F4 of Kombucha tea (KT) that contained F3 (70.29% water, 6.64% sucrose, 0.85% tea, 2.22% SCOBY, 20% fermented Kombucha tea) and F4 (64.16% water, 7.58% sucrose, 1.04% tea, 2.22% SCOBY, 25% fermented Kombucha tea) has been the highest mean score (6.53±2.05) and (6.53.1.46) respectively. Meanwhile, for the BJM agar, the highest mean score (5.33±1.79) is from the F4 that contained (10% black jelly mushroom, 85.90% water, 3.81% custard flour, and 0.29 sucralose). Through proximate composition, F4 Kombucha tea had a moisture content of 92.84±0.43%, ash of 0.37±0.03%, crude protein of 0.05±0.05%, carbohydrate of 6.63±0.39%, and total energy of 27.75±1.93 kcal/g. Meanwhile, F4 BJM agar has a moisture content of 95.09 ± 0.36%, ash of 0.11±0.02%, crude protein 0.03±0.02%, carbohydrate 11.19±0.50%, and total energy of 46.66±1.40 kcal/g. Kombucha tea F4 also has antioxidant capabilities and is good for the health of consumers. The antioxidant capacity of Kombucha Tea has also been successfully determined through the DPPH method which is IC<sub>50</sub> = 91.0059. Therefore, the combination of F4 Kombucha Tea with the F4 BJM agar is the best formulation and has good nutritional value for consumers.