ABSTRACT

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UTILIZATION OF TEMPEH AND RED RICE IN READY-TO-DRINK FUNCTIONAL BEVERAGE
(xv + 78 pages: 30 figures, 12 tables, and 9 appendices)

Several previous researches had shown that tempeh and red rice possessed functional compound which was believed to have health benefit for human. However, diversification product from the two materials was still limited and if even existed, it posed problem with sedimentation. The aim for this research was to investigate the effect of tempeh pre-treatment and ratio between tempeh to red rice towards consumer preference and also the effect of xanthan gum on the stability and acceptability of beverage. Assessment on functional properties, such as phenolic, flavonoid, and antioxidant activity was also carried on result after several processing step. Result showed that from all combination between tempeh pre-treatment (steam, bake, steam and bake) and ratio tempeh to red rice (80:20, 60:40, 40:60, and 20:80), steamed tempeh with ratio 40:60 obtained the highest acceptability. In term of xanthan gum, from assessment of both stability and hedonic test, concentration of 0.075% was chosen. The end product could be claimed as low fat product and good source of dietary fiber. However, this product would need further improvement to increase its acceptance. Regarding functional component assessment, heat treatment would increase total phenolic content and antioxidant activity in tempeh, but decreased total phenolic, total flavonoid, and antioxidant activity in red rice. After final processing step, current beverage product had 6.074±0.409 mgGAE/100mL, 6.654 mgQE/100mL, and 3.578±0.071 mgAAE/100mL for its phenolic content, flavonoid content, and antioxidant activity, respectively.

Keywords : tempeh, red rice, beverage, antioxidant, processing