

## ABSTRACT

Enoch Kon (01034180054)

### **PRODUCTION OF AQUAFABA MADE FROM CHICKPEA (*Cicer arietinum L.*), YELLOW LENTILS (*Lens culinaris*), AND YELLOW SPLIT PEAS (*Pisum sativum*)**

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The rise in vegan and vegetarian lifestyle increases the demand for plant-based products as a replacement of the animal-based products. Aquafaba, which means bean water, is the water obtained from boiling legumes in water. Aquafaba is known to have foaming properties, similar to that of egg white hence it has a potential to be the plant-based substitute. As most of the aquafaba produced is made from chickpea, this research aims to produce aquafaba from different types of legumes and compare it to aquafaba produced from chickpea as well as comparing the foaming capabilities to that of egg white. Yellow lentils (*Lens culinaris*) and yellow split peas (*Pisum sativum*) are used to produce aquafaba due to the high protein and low-fat composition which is similar to that of chickpea. Aquafaba production is treated to different boiling time of 30, 60 and 90 minutes. Aquafaba produced from yellow split pea with a boiling time of 90 minutes were found to have the best result regarding both composition and foaming ability with yield of  $342.36 \pm 16.34\%$ , pH of  $6.62 \pm 0.10$ , viscosity of  $31.47 \pm 0.27$  cPs, total soluble solid of  $4.24 \pm 0.04\%$ , protein content of  $41.18 \pm 6.37\%$ , carbohydrate content of  $42.13 \pm 3.13$  mg/mL, and tannin content of  $45.44 \pm 1.53$  mg CE/mL as well as foaming capacity of  $318.13 \pm 19.87\%$  and foaming stability of  $94.18 \pm 0.83\%$ .

Keywords : aquafaba, egg replacer, *Cicer arietinum L.*, *Lens culinaris*, *Pisum sativum*

Reference : 41 references (1990-2021)