

ABSTRACT

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CHARACTERIZATION OF AQUAFABA FOAMING PROPERTIES IN AQUAFABA MADE FROM CHICKPEA BROWN LENTIL AND GREEN LENTIL

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Aquafaba is a legume cooking water that has many functional properties. The objective of this research is to determine the effect of cooking time upon foaming properties of aquafaba. Different types of legumes including chickpea, whole green lentil, and whole brown lentil were used in production of aquafaba. Different cooking treatment were used including 30 minutes, 60 minutes, and 90 minutes. Aquafaba was subjected to various analysis, including moisture content, total soluble solid, yield, pH, viscosity, protein, carbohydrate, foaming capacity and stability. Based on research conducted green lentil, brown lentil, and chickpea were able to be made into aquafaba. There was a statistically different between ($p \leq 0.05$) for legume types and cooking time toward physical characteristics and chemical compositions of aquafaba. The optimum cooking time of different types of legumes based on foaming capacity and foaming stability of aquafaba were 30 minutes of cooking. Mean of foaming capacities that was obtained from 30 minutes of cooking was $371.360 \pm 51.706\%$. Mean of foaming stabilities that was obtained from 30 minutes of cooking was $81.722 \pm 2.139\%$. Factors affecting foaming stability significantly include yield, tannin content, viscosity, and pH. Factors that affect foaming capacity significantly include pH, protein content and tannin content. More research needs to be conducted in making similar viscosity of aquafaba in different legume types and reducing tannin content effectively without the consequent nutrient loss.

Keywords : aquafaba, foaming, protein

References: 64 (1996-2022)