

ABSTRACT

Jessica (1305020034)

PRODUCTION OF DURIAN POWDERED DRINK BY MEANS OF FOAM MAT DRYING

Thesis, Faculty of Science and Technology (2018).

(xiii + 59 pages: 9 figures, 13 tables, 20 appendices)

Foam mat drying is an alternative method which allows the removal of water from juices that are difficult to dry such as durian juice. The foam mat drying of durian juice is aimed to find out the effect of foam mat drying formulations towards the quality of durian powder. The research was done in three stages which include stage I which is the combination of pulp to water ratio (1:2, 1:3, 1:4 and 1:5) and carboxymethyl cellulose (CMC) concentration (0, 0.5 and 1%), stage II which is the combination of mixing time (5, 10 and 15 min) and albumen concentration (5, 10 and 15%) and stage III which is the combination of drying time (5, 6 and 7 hours) and temperature (50, 60 and 70°C). The resulting powder was then further analyzed to measure the quality of the powder. The quality parameter include yield, antioxidant activity, stability, total dissolved solids and color. Yield is used as the main deciding factor to determine the best formulation. Additional analyses for particle size, bioactive compound and bacteria testing were also performed for durian powder made with the optimum formulation. The result of the analyses shows that durian powder made with 1:5 pulp to water ratio, 1% CMC, 10 min mixing time, 10% albumen, 7 hours drying time and 70°C drying temperature. This formulation produced result with the highest yield.

Keywords: Durian; foam mat drying; formulations; yield; quality parameters

References: 61 (1996 – 2017)