APPLICATION OF DRIED AIR MADE BY SILICA GEL IN STEAMED CRACKER DOUGH DRYING

By

Stefanus Sutedjo
14211030

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SWISS GERMAN UNIVERSITY

SWISS GERMAN UNIVERSITY
EduTown BSD City
Tangerang 15339
Indonesia

Revision after the Thesis Defense on 10th August 2015

STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

Stefanus Sutedjo

Student Date

Approved by:

Irvan S. Kartawiria, ST., MSc.

Thesis Advisor Date

Ir. Abdullah MuziMarpaung, MP.

Thesis Co-Advisor Date

Dr. Dipl,-Ing. Samuel P. Kusumocahyo

Dean Date

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ABSTRACT

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IN STEAMED CRACKER DOUGH DRYING

By

Stefanus Sutedjo
Irvan S. Kartawiria ST., MSc. Advisor
Ir. Abdullah MuziMarpaung, MP. Co-Advisor

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The purpose of the research was to evaluate suitability of air dryer with silica gel as proper method for steamed cracker dough drying. Variations of thickness of steamed cracker dough were 2 cm and 3 cm and the flow rate of the air source were 13.4 m/s and 10.6 m/s. The types of air dryer evaluated were single column air dryerand double column air dryer with condensation. From the result of the experiment it can be concluded that single column air dryer was not effective, because the drying rate of steamed cracker dough drying treated with single column air dryer0.066kg/m^2.h and 0.067 kg/m^2.h was lower than the untreated steamed cracker dough drying rate0.073kg/m^2.h. The next variation of the air dryer was double column air dryer with condensation. The variation of treatment were the same with single column air dryer 2 cm and 3 cm thick steamed cracker dough and 13.4 m/s and 10.6 m/s. The result shows that the double column air dryer with condensation was effective.It was effective because the drying rate of steamed cracker dough treated with double column air dryer with condensation were 0.090 kg/m^2.h and 0.089kg/m^2 while the drying rate of untreated steamed cracker dough was 0.073kg/m^2.h. the drying time was also reduced from 48 hours to 9 hours.

Keywords: steamed cracker dough, silica gel, air dryer, and drying rate.

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DEDICATION

This thesis is dedicated to my parentsKarsoMulyanto Sutedjo and JatnawatiIlham for supporting me for my entire life. To all researchers that have done and will do research in the following in the same line of research. To all my friends that have accompanied me through all of my university life. Lastly I want to dedicate this work to all small cracker industries in Indonesia.

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