

**CHANGES OF GLUCOSINOLATES AND PHYSICAL
PROPERTIES OF INDIAN MUSTARD THROUGHOUT THE
PRODUCTION OF *SAYUR ASIN***

**PERUBAHAN GLUKOSINOLAT DAN KARKTERISTIK FISIK
DARI SAWI PAHIT SELAMA PROSES PRODUKSI
SAYUR ASIN**



Caesariana Ariyani Priatko
10.95.0001

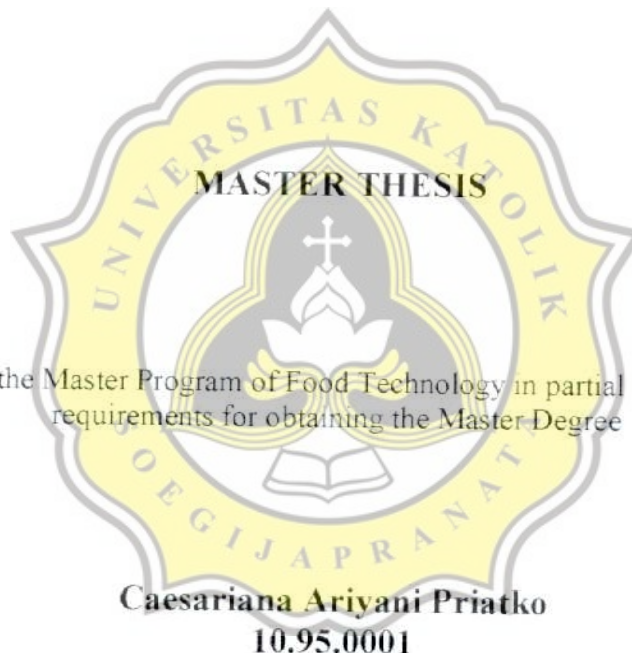
**MASTER PROGRAM OF FOOD TECHNOLOGY
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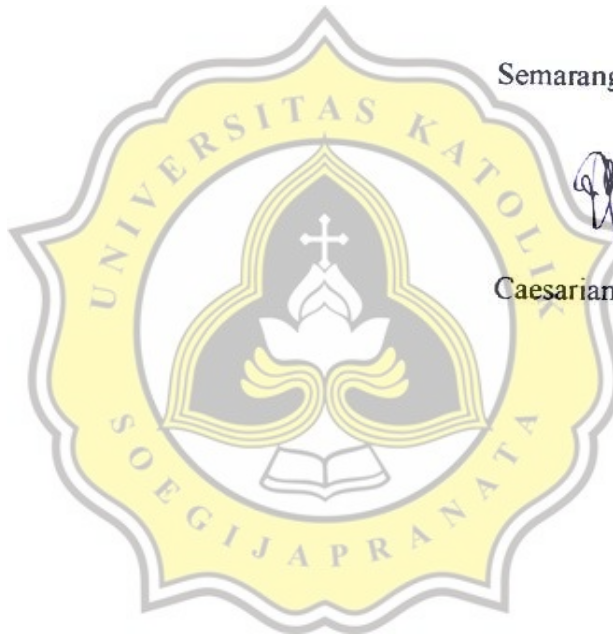
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STATEMENT OF ORIGINALITY

The undersigned declares that to the best of her knowledge, this thesis does not contain any materials previously published or written by another person, or substantial proportions of material which has been accepted for the award of any other degree at diploma at Soegijapranata Catholic University or any educational institution, except those referred in this thesis and mentioned in the bibliography.

Semarang, October 2013



Caesariana Ariyani Priatko

MASTER THESIS

**CHANGES OF GLUCOSINOLATES AND PHYSICAL PROPERTIES OF
INDIAN MUSTARD THROUGHOUT THE PRODUCTION OF *SAYUR
ASIN***

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10.95.0001

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This master thesis has been approved as a fulfillment of the requirements
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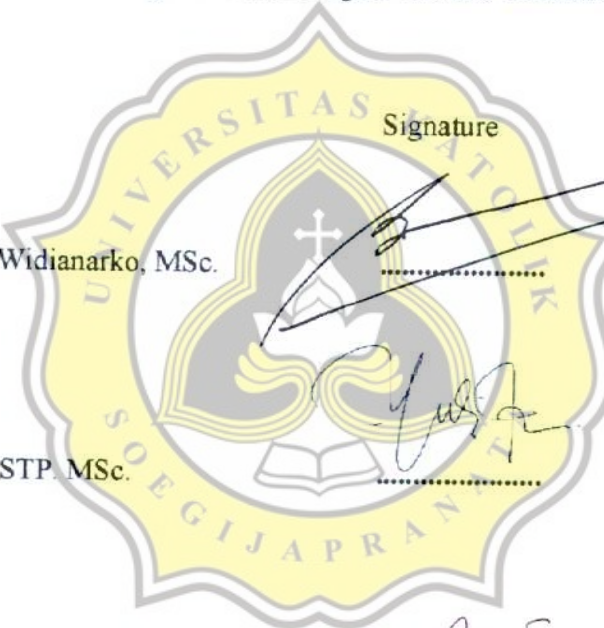
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Abstract

Brassica spp are popular vegetables produced in Indonesia. These vegetables are usually consumed either fresh or after processing, such as boiling, stir frying, or fermentation. Brassica juncea var. Czern or leaf mustard is one kind of Brassica which is usually consumed by Indonesian people as fermented product, for example "sayur asin" as a fermented product from leaf mustard and other ingredients by lactic acid bacteria. Fermentation process not only increases the digestibility value and sensory properties from leaf mustard, but also provides probiotic bacteria in the end product and the waste water which are good for human. But, during fermentation process, some physicochemical compounds are changed. The physicochemical changes during "sayur asin" making and fermentation process is related with color, texture, sensory, and glucosinolates. Because of the lack of information related with the standarization of "sayur asin" making especially in Semarang and glucosinolates as the functional compound in leaf mustard, so this research is needed. During fermentation process, some factors affected the decrease of glucosinolate, i.e: withering process, rubbing, and salt content. Optimalization in these processing can prevent glucosinolate's degradation with the end product was still having similar physical characteristic with common product in the market.

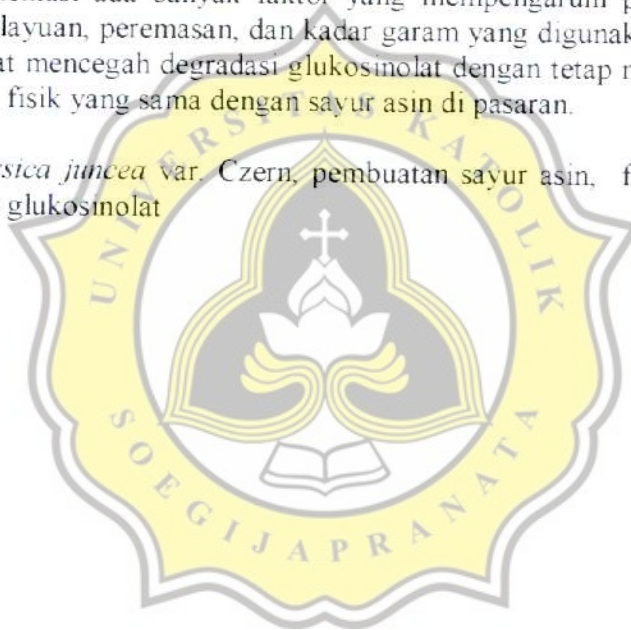
Keywords : *Brassica juncea var Czern, "sayur asin" making, fermentation, physical characteristic, and glucosinolates*



Abstrak

Brassica spp merupakan sayur yang banyak diproduksi di Indonesia. Sayur ini umumnya dikonsumsi baik dalam bentuk segar maupun telah diolah, seperti direbus, digoreng, atau difermentasi. *Brassica juncea* var. Czern atau sawi pahit merupakan salah satu jenis *Brassica* yang umumnya dikonsumsi oleh masyarakat Indonesia dalam bentuk produk fermentasi, sebagai contoh sayur asin sebagai produk fermentasi dari sawi pahit dan bahan lain oleh bakteri asam laktat. Proses fermentasi tidak hanya meningkatkan nilai cerna dan sensoris dari sawi pahit, tetapi juga menyediakan bakteri probiotik pada produk akhir ataupun limbah cair, yang baik bagi manusia. Namun, selama fermentasi, beberapa komponen fisikokimia mengalami perubahan ataupun penurunan. Komponen fisikokimia yang berubah selama proses pembuatan dan fermentasi ini terkait dengan warna, tekstur, sensori, dan glukosinolat. Karena minimnya informasi tentang standarisasi pembuatan sayur asin, khususnya di Semarang dan glukosinolat sebagai komponen fungsional pada sawi pahit, maka penelitian ini diperlukan. Selama proses fermentasi ada banyak faktor yang mempengaruhi penurunan glukosinolat, diantaranya: cara pelayuan, peremasan, dan kadar garam yang digunakan. Optimalisasi proses yang dilakukan dapat mencegah degradasi glukosinolat dengan tetap menghasilkan sayur asin dengan karakteristik fisik yang sama dengan sayur asin di pasaran.

Kata kunci : *Brassica juncea* var. Czern, pembuatan sayur asin, fermentasi, karakteristik fisik, dan glukosinolat



FOREWORD

Author would like thank to Jesus Christ, our God for His blessing so this master thesis entitled "CHANGES OF GLUCOSINOLATES AND PHYSICOCHEMICAL PROPERTIES OF INDIAN MUSTARD THROUGHOUT THE PRODUCTION OF *SAYUR ASIN*" can be finished on time, as the requirement in obtaining master degree in Master Program of Food Technology.

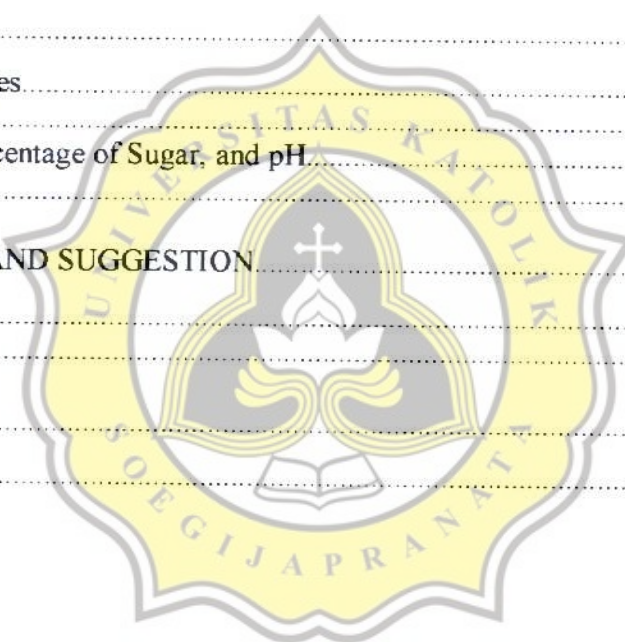
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