

**STUDI PERBANDINGAN ANTARA
RAGI LOKAL “NKL” DENGAN
KULTUR MURNI YANG DIHASILKAN
TERHADAP PRODUKSI WINE BERAS**

***THE STUDY OF COMPARISON
BETWEEN LOCAL STARTER “NKL”
AND RESULTED PURE CULTURE
IN PRODUCING RICE WINE***

THESIS

Submitted to The Faculty of Agricultural Technology in partial fulfillment of the requirements for obtaining the Bachelor Degree

By :

IVANNELA KARTIKA IRWANI

06.70.0119



**DEPARTMENT OF FOOD TECHNOLOGY
FACULTY OF AGRICULTURAL TECHNOLOGY
SOEGIJAPRANATA CATHOLIC UNIVERSITY
SEMARANG**

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IVANNELA KARTIKA IRWANI

NIM: 06.70.0119

Food Technology Department

This thesis has been approved and defended in front of
the examination committee on

Semarang, January 2011

Faculty of Agricultural Technology
Soegijapranata Catholic University

Supervisor I

Dean

Ir. Lindayani, MP., PhD.

Ita Sulistyawati, STP, MSc.

Supervisor II

Dra. Laksmi Hartayanie, MP.

SUMMARY

Indigenous fermented foods have become a new interest and consequently have provided new subjects for intellectual creation these few years. One of fermented food which is very well-known in Indonesia and some other countries in Asia is tape. Tape has a good prospect to be industrialized and marketed globally in the future. While the purple glutinous rice wine is very interesting these days because of its sherry-like taste, flavour and attractive brown-red color. In Indonesia, fermented foods are prepared using simple equipments and techniques. It means the producers could not provide a standard level of hygiene. Due to that factors, some important microorganisms tend to loss resulted in decrease in quality of the final products. The aim of this research is to isolating the pure culture from the local starters which is usually used in Indonesia. The local starters and resulted pure cultures then were compared in producing rice wine by applying the different heating methods. So the rice wine fermentation can be produced in the best way. The isolation step resulted in three molds and yeast as the best microorganisms involved in rice wine fermentation. The molds are *Mucor* spp., *Penicillium* spp., and *Geotrichum* spp., and for the yeast is *Candida utilis*. The result shows that rice wine with steam treatment and using pure culture (sample D) has highest pH as much as 3.99 and alcohol content as much as 27.67% but the lowest acidity as much as 0.53. For the rice wine with autoclave treatment and using starter culture (sample A) has lowest pH as much as 3.53. Sample C, which is rice wine with steam treatment and using starter culture, has highest acidity as much as 0.84 and also lowest alcohol content as much as 14%. Rice brew typically has higher alcohol content (18-25%) than grape wine (10-14%), which in turn has higher alcohol content than beer (4-8%). Therefore the best combination in producing rice wine samples are steamed rice and using pure culture.

RINGKASAN

Produk pangan fermentasi tradisional telah menjadi suatu daya tarik baru dan akibatnya memberikan pembelajaran baru bagi penciptaan intelektual selama beberapa tahun ini. Salah satu makanan fermentasi yang sangat terkenal di Indonesia dan beberapa negara lain di Asia adalah tape. Tape memiliki prospek yang baik untuk industri dan dipasarkan secara global di masa depan. Sementara anggur beras ketan ungu sangat menarik akhir-akhir ini karena rasanya yang seperti sherry, serta memiliki rasa dan warna coklat kemerahan yang menarik. Di Indonesia, makanan fermentasi diproduksi dengan menggunakan peralatan dan teknik yang sederhana. Ini berarti produsen tidak bisa memenuhi standar kebersihan yang berlaku. Karena faktor itulah beberapa mikroorganisme penting cenderung hilang yang mengakibatkan penurunan kualitas pada produk akhir. Tujuan dari penelitian ini adalah untuk mengisolasi kultur murni dari starter lokal tape yang banyak digunakan di Indonesia. Starter lokal dan kultur murninya juga dibandingkan dalam memproduksi anggur beras. Dua macam metode pemasakan sampel beras juga diaplikasikan sehingga fermentasi anggur beras dapat diproduksi dengan cara yang terbaik. Tahapan isolasi kultur murni menghasilkan tiga jamur dan sebuah ragi sebagai mikroorganisme terbaik yang terlibat dalam fermentasi anggur beras. Jamur yg diperoleh adalah adalah *Mucor* spp, *Penicillium* spp., dan *Geotrichum* spp. Dan untuk ragi adalah *Candida utilis*. Dari hasil pengujian sifat kimiawi dapat diketahui bahwa anggur beras dengan menggunakan uap sebagai metode pemasakan dan kultur murni (sampel D) memiliki pH tertinggi sebesar 3,99 dan kadar alkohol sebesar 27,67% dan kadar keasaman terendah sebanyak 0,53. Untuk anggur beras dengan perlakuan autoclave dan budaya starter menggunakan (sampel A) memiliki pH rendah sebanyak 3,53. Sampel C, yang adalah beras anggur dengan perlakuan uap dan menggunakan kultur starter, memiliki keasaman tertinggi sebesar 0,84 dan kadar alkohol terendah sebesar 14%. Minuman fermentasi dari beras biasanya memiliki kandungan alkohol lebih tinggi (18-25%) daripada anggur (10-14%), yang memiliki kadar alkohol lebih tinggi dari bir (4-8%). Oleh karena itu kombinasi terbaik dalam memproduksi anggur beras adalah dengan metode pemasakan uap dan menggunakan kultur murni.

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The writer realizes that this thesis report is still far from perfect. The writer still requires any advice and criticism for the improvement of this report. The writer truly hopes that this research could give a valuable contribution to the world of science and be useful to the development of food industries.

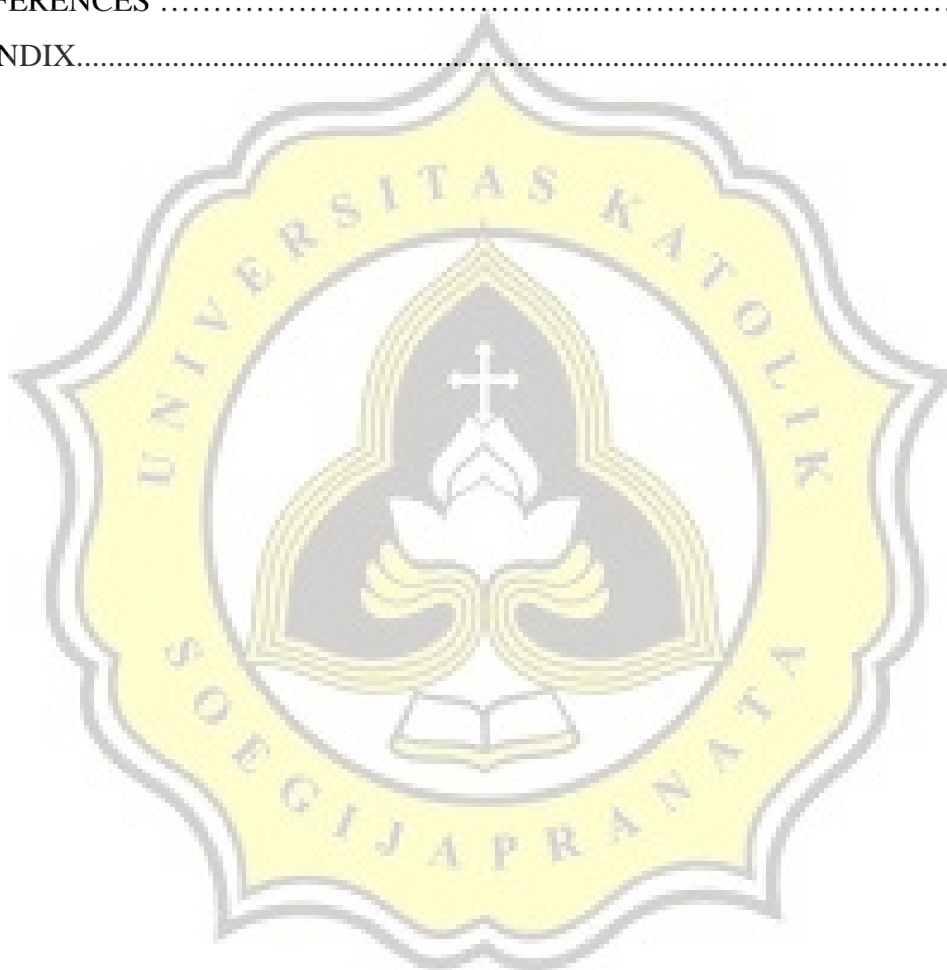
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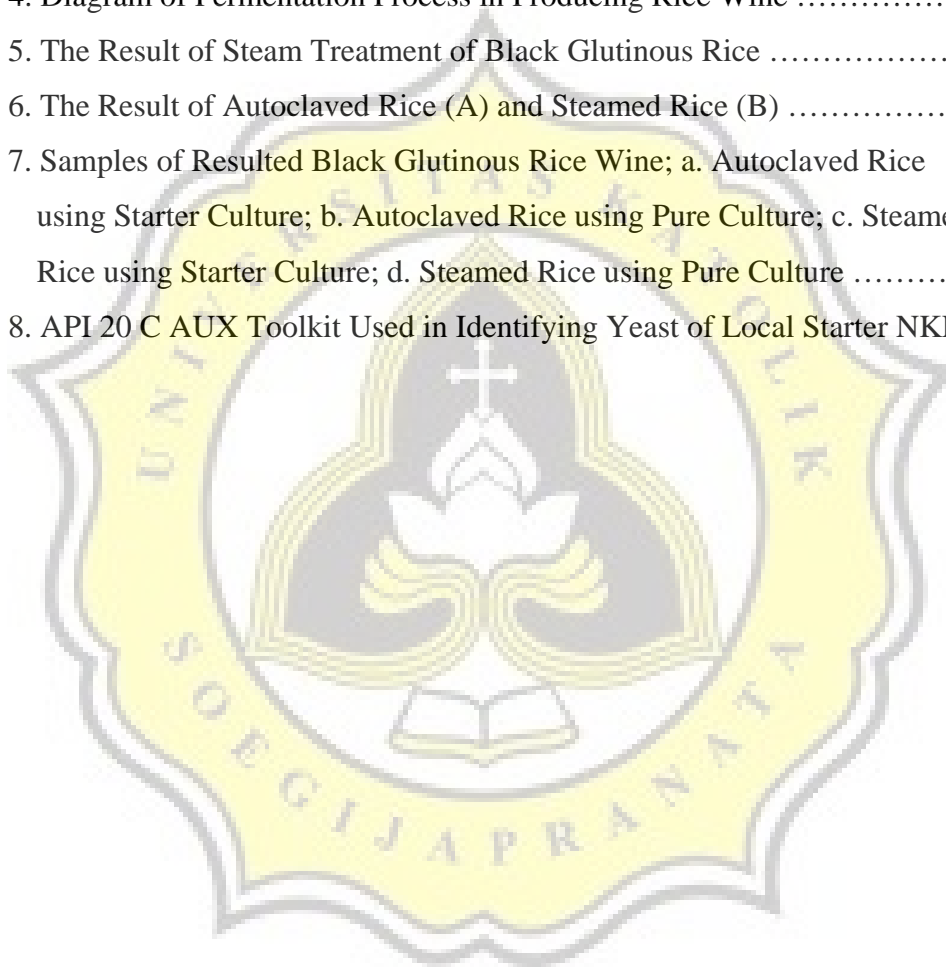
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