

# PEMBUATAN *HONEY WINE* MENGGUNAKAN *YEAST* *INDIGENOUS* MADU RANDU

**Mahasiswa** : Veronica D.S.A  
Skripsi (2009), Program Studi Mikrobiologi SITH

**Pembimbing** : Dr. Pingkan Aditiawati<sup>1</sup>  
<sup>1</sup> SITH-ITB, email : [pingkan@sith.itb.ac.id](mailto:pingkan@sith.itb.ac.id)

**Gelar** : Sarjana Sains (S.Si), Wisuda April 2009

## Abstrak

Honey Wine adalah minuman fermentasi dari madu. Madu yang difermentasi oleh *yeast* memiliki aroma yang khas, aroma yang dihasilkan memiliki karakter tersendiri bergantung dari jenis madu yang digunakan. Secara umum honey wine memiliki rasa yang manis, asam dan sedikit pahit. Dari segi kesehatan, kandungan alkohol pada honey wine dapat menyebabkan sirkulasi darah di seluruh tubuh menjadi lebih lancar, disamping itu konsumsi yang teratur dapat menyebabkan penurunan kadar kolesterol di dalam darah. *Yeast* yang digunakan untuk fermentasi berasal dari madu randu, diisolasi dengan metode *Spread-Plate Technique*, dan menghasilkan 2 isolat *yeast* yaitu *Zygosaccharomyces bailii* dan *Pichia membranaefaciens* dengan karakteristik koloni sbb: *Zygosaccharomyces bailii* memiliki koloni berwarna putih kusam, berbentuk: *circular, entire, convex*; dan sel merupakan Gram positif. *Pichia membranaefaciens* memiliki koloni berwarna putih kusam, berbentuk: *circular, undulate, raised*, dan ada bulatan di tengah; sel merupakan Gram positif. Proses fermentasi merupakan fermentasi alkoholik dimana bahan yang digunakan mengikuti resep komersial, dan difermentasi secara anaerob selama 32 hari. Analisis dilakukan setiap hari selama 2 minggu pertama dan setiap tiga hari sekali selama 2 minggu selanjutnya. Inokulum yang digunakan yaitu: *Zygosaccharomyces bailii* 10% v/v, *Pichia membranaefaciens* 10% v/v, dan kultur campuran *Zygosaccharomyces bailii* dan *Pichia membranaefaciens* 10% v/v (2:1). Selama proses fermentasi, dilakukan pengukuran terhadap pH, jumlah sel, kadar gula, kadar alkohol, dan diakhir fermentasi dilakukan uji organoleptik. Hasil dari penelitian ini didapatkan nilai pH pada akhir fermentasi sebesar 3,36; 3,23; dan 3,35, jumlah sel *yeast* sebesar  $6,18 \times 10^6$  sel/mL,  $1,72 \times 10^7$  sel/mL, pada kultur campuran  $0,8 \times 10^4$  CFU/mL dan  $29,1 \times 10^4$  CFU/mL, sukrosa 19,73g/100g larutan, 20,20 g/100g larutan, 19,60 g/100g larutan, kadar alkohol adalah 11,5%, 14,7% dan 9,9%; dan hasil uji organoleptik menunjukkan honey wine dengan inokulum *Pichia membranaefaciens* 10% v/v lebih disukai. Dengan demikian dapat disimpulkan honey wine dapat diproduksi dengan menggunakan *yeast* hasil isolasi.

**Kata kunci** : *Honey Wine*, madu randu, *Spread-Plate Technique*, fermentasi alkoholik, *Zygosaccharomyces bailii*, *Pichia membranaefaciens*

## Making Honey Wine Used Indigenous Yeast From “Randu” Honey

**Student :** Veronica D.S.A

Final Project (2009), Degree program In Microbiology,  
School of Life Sciences and Technology -ITB

**Advisors :** Dr. Pingkan Aditiawati <sup>1</sup>

<sup>1</sup> School of Life Sciences and Technology ITB,  
email : [pingkan@sith.itb.ac.id](mailto:pingkan@sith.itb.ac.id)

**Degree :** Degree Sains (S.Si), Conferred April 2009

### Abstract

Honey Wine is a fermentation beverage made of honey. The honey fermented by yeast has a unique flavor. The flavor has produced distinctive character depending of the type of honey used. In general, honey wine has a sweet, sour and slightly bitter taste. In terms of health, the alcohol content of honey wine can cause the circulation of blood throughout the body to become more fluent. Regular consumption can cause a decrease in cholesterol content in the blood. Yeast used for fermentation comes from *randu* honey, isolated with the Spread-Plate Technique method, and produces two *isolat* yeast *Zygosaccharomyces bailii* and the *Pichia membranaefaciens* colony with the following characteristics: *Zygosaccharomyces bailii* colonies have a white opaque color, shape: circular, entire, convex; and the cells are Gram positive. *Pichia membranaefaciens* colonies have a white opaque color, shape: circular, undulate, raised, and has roundness in the middle; cell is Gram positive. The fermentation process is an alcoholic fermentation, where the commercial recipes are used, and *anaerobicly* fermented for 32 days. Analysis is done every day for the first two weeks and every three day for the next two weeks. The *Inoculum* used are: *Zygosaccharomyces bailii* 10% v / v, *Pichia membranaefaciens* 10% v / v, and the mix culture *Zygosaccharomyces bailii* and *Pichia membranaefaciens* 10% v / v (2:1). During the fermentation process, carried out the measurement of pH, the number of cells, sugar, alcohol content, and at the end of fermentation an organoleptic test is performed. Results from this study found the value at the end of the fermentation pH are 3.36, 3.23 and 3.35, the number of yeast cells was  $6.18 \times 10^6$  cells/ mL,  $1.72 \times 10^7$  cells mL, and the mix culture consist of  $0,8 \times 10^4$  CFU/mL and  $29.1 \times 10^4$  CFU mL, the sucrose solution 19.73 g/100g solution, 20.20 g/100g solution, and 19.60 g/100g solution, alcohol contents are 11.5%, 14 , 7% and 9.9%, and test organoleptic results honey wine with inoculum *Pichia membranaefaciens* 10% v / v is preferred. Thus it can be concluded that honey wine can be produced with the use of yeast isolation.

**Keywords :** Honey Wine, *randu* honey, Spread-Plate Technique, alcoholic fermentation, *Zygosaccharomyces bailii*, *Pichia membranaefaciens*.